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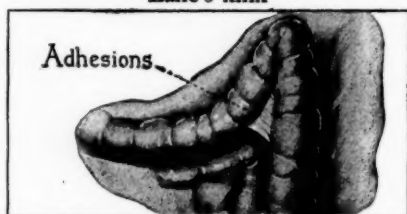
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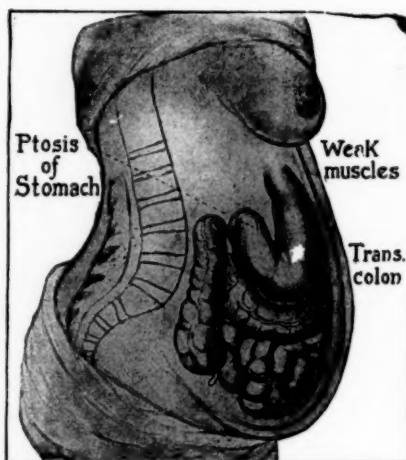
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Dermatitis Venenata Caused by Lacquer From a Mah Jong Set

WALTER JAMES HIGHMAN, M. D.,
New York.

The practical importance of this brief report will, I hope, impel you to accord it space. The significance of the matter dealt with will receive more detailed consideration in a future article of greater pretentiousness, but I think the bare facts to be outlined should be brought to the attention of the medical public at once.

On December 3rd, 1923, two sisters presented themselves with signs of acute vesicular dermatitis of approximately thirty-six hours duration. The lesions had appeared suddenly in both, and were preceded by an hour of intense itching. In the one patient the left side of the neck, the right middle finger and the eyelids were affected; in the other, only the neck. Cross-questioning elicited no knowledge of exposure to the ordinary substances, animal vegetable or mineral, capable of provoking the eruption.

It was mentioned quite casually that twenty-four hours prior to the onset the two patients had played Mah Jong with a new set just imported from the Orient. It occurred to me, since it is commonly known that Oriental lacquers are capable of causing dermatitis venenata, that here might lie the explanation of the disease. The problem was how to establish the fact, and percutaneous tests suggested themselves as the method likely to prove successful. Accordingly, fine scrapings were made of the ivory of the tiles, of the bamboo of the tiles, of the lacquered disc counters, of the surface of the lacquered box, and of the surface of one of the lacquered trays.

The tests were carried out precisely as are the percutaneous proteid sensitization tests. The skin was excoriated and upon each excoriation a small

quantity of the scrapings, dissolved in decinormal sodium hydrate solution, was rubbed in. Within half an hour typical reactions were seen where the lacquered substances had been applied. The ivory and bamboo tests, as well as the conventional controls, were negative.

In the patient with the severer dermatitis the positive results were more intense than in her sister. The next day at the sites of the positive tests in the former there were hard, red, painful and tender nodules, as large as a coffee bean. In the sister there was no such reaction.

The next step consisted of applying a coating of the lacquer, dissolved as above, over an uninjured surface of the skin as large as a quarter. This was covered with adhesive plaster, which was removed in twenty-four hours. Within sixty hours a typical patch of dermatitis venenata appeared in the patient who had the intense eruption. In the sister this test was negative.

Two more patients are under observation for the same condition. In one of them the eruption began two months ago at a time when her husband had brought her a new imported set. She gave mild percutaneous reactions, corresponding to those already outlined. The test on the unabraded skin was negative. The tests on the fourth patient were all negative and there is no experimental evidence that her attack is due to the cause herein discussed.

In the first two patients the evidence seems complete, and there have been no recurrences, although they have played with sets other than the incriminated one.

780 Madison Ave.

The General Practitioner and the Care of Diabetes

J. DANFORTH TAYLOR, M.D.

East Boston, Mass.

At the present time, medical lore seems to be pre-eminently occupied with the subject of diabetes mellitus. There is scarcely a medical journal but what devotes one or more voluminous articles to diabetes, and courses for the general medical man are being given by those whose word passes as authority on the subject. For the treatment of diabetes a knowledge of physiological chemistry, caloric feeding and endocrinology are not only pre-requisites but in fact, *essentials*.

As yet, the insulin treatment is outside the realm of a text-book (except Joslyn's book just out) and a great mass of more or less conflicting testimony comes from the experts themselves. This article is an attempt, on the part of a man engaged in the practice of general medicine, to clarify and vivify from the great assortment of evidence, some few essentials which may be of value to those who have not the time to look them up.

Diabetes mellitus has been defined (inadequately, according to some writers) as a disease of faulty metabolism of such a nature that the system is deprived of the power to utilize carbohydrates in a manner necessary for the maintenance of life and causing the body tissues to be placed in a state of diminished resistance. The non-combustibility of sugar, and its constant presence in the urine is probably due to a ferment deficiency, through which the sugar fails to reach an oxidizable stage.

While the text-book writers explain the etiology of the disease in various ways, they are practically agreed that the symptoms are typical, i.e., increased urine with glycosuria, progressive loss of weight and strength, together with complications of mental, skin, digestive, ocular and pulmonary disorders. As most of the autopsies of those dying from diabetes show sclerosis or degeneration of the islands of Langerhans of the pancreas or atrophy of the organ as a whole, may we not conclude that both quantitative and qualitative changes are operative in leading to a functional insufficiency of the insular tissues as seen in clinical diabetes? So that we may say we know, or at least, infer, that the islets of Langerhans of the pancreas are responsible for sugar metabolism and that failure of these islets to function is a cause of diabetes.

Our next step is to briefly review our knowledge of the foodstuffs, subjects which we had in our student days and which have possibly slipped from our minds but which are most essential for our successful treatment of diabetes. In order to keep a human being alive, a certain amount of food must be supplied to replace the loss to the body of its tissues and of its reserves of carbohydrates and fats, which are being continually consumed for the provision of energy necessary to keep the animal or human warm, and for the performance of internal and external movements of the body.

The actual amount of food required will depend on the size of the person, on the temperature of the surrounding media and on the muscular work performed. All our foods, it will be remembered, are divided into three great classes, carbohydrates, fats and proteins and hereafter will be spoken of as C, F, and P. The carbohydrates are transformed into fat and form the most important source of energy. In plants, the first product

of assimilation of carbon is a carbohydrate. Carbohydrate examples are sugar and starch. Fats, such as fat of meat, butter, olive oil, oil of corn and wheat, are stored up in the body as fats, serve as a reserve food store and are probably formed directly from C., although where and how this conversion takes place is not known. Proteins, which builds and repairs tissue, are seen in the white (albumin of eggs, in the curd), caesin of milk, in lean meat, and gluten of wheat. Protein is the most important constituent of living protoplasm and must always be present in the food supply.

Broadly speaking, the foods as seen in C, P, and F, may be regarded as fuel, from the oxidation of which in the body, the energy necessary for physical requirements is set free. *We must also bear in mind the end results of the normal digestion of C, P, and F.* That of P, results in a great variety of mono and diamino acids; F, is converted into fatty acids, soap and glycerine and C, is changed into the three mono-saccharides, glucose, fructose and galactose. For supplying energy, any of the three classes of foodstuffs may be utilized, the value of each being expressed in calories (or heat units) which are evolved when the foodstuff is oxidized to the end stages which it attains in the body. Thus, one gram of P, and one gram of C, will each furnish the same amount of energy in the body, namely, four calories each for a unit weight, and one gram of fat will furnish about nine calories. In connection with this, it is well to remember that one kilogram is equal to about 2.2 pounds and that 30 grams or cubic centimeters equal about one ounce.

The body tissues of a patient at rest need a certain minimum amount of fuel to supply heat and energy and this has been estimated to be about 25 calories per kilogram of body weight. This amount varies with age, sex, weight and height of the individual and is called the **BASAL CALORIC REQUIREMENT**. This may be determined with considerable accuracy by means of charts based on the Aub Du Bois calculations, or for practical purposes it may be estimated that an adult with average nutrition will utilize in twenty-four hours approximately 30 calories per kilogram of body weight. This necessary fuel must be obtained from the C, P, and F, or from the body tissues.

In the human economy a certain amount of P, is absolutely necessary for growth and to replace nitrogenous waste, and this amount is usually estimated to be from 0.7 to 1 gram of P, for each kilogram of body weight in an adult and from 1 to 2.5 grams in a child. The remainder of that heat units required may be supplied as C, and F, but we must remember that fat is metabolized only in proportion to the amount of glucose burned. It has been well stated that "the fats burn in the flame of the carbohydrates" and in diabetes, we know that a defective fat metabolism accompanies the sub-normal carbohydrate combustion. This defective process results in the accumulation in the blood and tissues of the products of *incompletely burned fatty acids* such as diacetic and oxybutyric acids and acetone. This gives rise to the condition known as acidosis.

Now the amount of food which can be given to a diabetic patient has two distinct limitations, one his ability to oxidize carbohydrate, the other his ability to oxidize

the acetone bodies. The oxidation of acetone bodies is dependent on the oxidation of glucose. The products of incompletely burned fatty acids are often called acetone or ketone bodies and this abnormal production is called KETOSIS. Remembering that the fats burn in the flame of the carbohydrate, the following principle may be made clearer. When the ketones formed in the course of normal metabolism come in contact with sufficient glucose which is in the process of oxidation, they become oxidized to carbon dioxide and water. When they fail to come in contact with a sufficient quantity of oxidizing glucose they escape oxidation and appear in the urine. The ratio of substances which promote ketosis to substances which prevent it, i.e., of ketogenic acid to glucose, determines the presence or absence of ketosis.

It is necessary then, to choose one substance as a unit in which to express the various ketones. This ratio is expressed usually in grams and fatty acid has been selected for this purpose, just as nitrogen has been used to express the quantity of various nitrogenous substances. The ketone bodies may be derived from fat and from protein, the protein yielding in terms of fatty acid a possible 46% by weight and the fat about 90%. The glucose is derived primarily from C, also from P. and probably from the glycerol of the fat. The ketogenic compounds of the diet must, therefore, be balanced by the anti-ketogenic glucose which is produced not only from carbohydrate foods but also in smaller amounts from the P. and the F. The total available glucose (G) in the diet, may be figured as 100% of the C. + 58% of the P. and 10% of the fat. The quantity of ketone available, expressed as higher fatty acid, is obtained by multiplying the grams of fat by 0.9 and the grams of protein P. by 0.46.

The quantity of glucose available is obtained by adding to the grams of carbohydrate 0.58 times the grams of protein plus 0.1 times the grams of fat. This fatty-acid glucose ratio of a diet (taken from the formula of Woodyatt) then reads:

fatty-acid = $0.46 \times \text{protein} + 0.9 \times \text{fat} = (\text{ketones from P. and F.})$

glucose = $C. + 0.58 \times \text{protein} + 0.1 \times \text{fat} = (\text{glucose from C. P. and F.})$

It may be considered that one gram of total glucose burned in the body will effect the combustion of 1.5 to 2.5 grams of fatty-acid. In order to provide the maximum number of calories for a diabetic patient with the least strain on the insulin producing cells of the pancreas, it is desirable to use a relatively high fat in relation to carbohydrate. On the other hand, to insure the complete combustion of the fat and avoid formation of the ketone bodies, the fat must not be present in the diet in excess of a certain ratio to total available glucose, although in dealing with diets at or below the basal requirement level, such ratios may be safely ignored and a high fat diet used to free the urine of sugar. Diabetics who are not obese, may safely take 2 to 2.5 grams of fat per kilogram of body weight and their nitrogen requirement will be met by two thirds to one gram of protein per kilogram of body weight. The difference between the total calories required and the number supplied by the protein and the fat, may be added as carbohydrate.

For example, a 50 kilogram man will require a basal diet of 1500 calories. One gram of protein per kilo of body weight will furnish $(1 \times 50 \times 4)$ 200 calories and 2.5 grams of fat per kilo will furnish $(2.5 \times 50 \times 9)$ 1125 calories. Then 1500 less $(1125 + 200) = 175$ calories of carbohydrate which will be equivalent to

$(175 \div 4)$ approximately 44 grams of C. This affords a well balanced ration of C.44, P. 50 F. 125 with a weight ratio of fatty-acid to total glucose of 1.6 to 1.

There is some difference of opinion as to what this fatty-acid glucose ratio should be in a final diet. This varies with the individual case and a fair latitude is permissible. A diet in which the total fatty-acid in grams is not more than 1.5 times the total available glucose in grams, will be found a safe and advantageous proposition in most cases. Nomographic charts based on a fixed Protein requirement per kilo of body weight and a fatty-acid glucose weight ratio of approximately 2.5 to 1, may be obtained and their use obviates the necessity of figuring the C. and F. required to furnish a given number of calories. There seems to be no definite agreement as to the amount and distribution of food stuffs in a normal diet. It must vary with the individual, his age, height, sex and work. A committee of the Royal Society of England laid down as a proper diet for the average normal man Protein 100, Fat 100 and carbohydrate 500. This would total 3300 calories. $(100 \times 4 + 100 \times 9 + 500 \times 4)$. In selecting our foods, however, it is essential not only that we secure the proper proportion of P. F. and C. but we must also consider whether the foods selected contain these ingredients in a palatable and digestible condition. Selections should be made which will furnish us the necessary vitamins, in other words, the quality as well as the quantity of food should be taken into consideration. No set rule should be strictly followed in arranging either an initial test diet or a final maintenance diet, as each case of diabetes presents an individual problem. Some clinicians prefer a high fat diet and others a low fat, high carbohydrate ration.

For instance, Newburg and Marsh fed a group of diabetics since March, 1918, on a high fat, low protein and low carbohydrate diet. These patients were able to earn their own living, maintained a normal balance and an aglycosuric state, had sufficient energy and did not develop diarrhea or acidosis. They concluded that the use of fat in diabetes mellitus can be carried out safely and without fear of acidosis. It is somewhat of a puzzle why these high fat diets failed to induce ketosis but we have a number of explanations. The patients may have contributed enough of their own protein and carbohydrate and stored up enough fat to reduce the actual ratio to below the critical value at which ketosis has been observed to occur. Then again, the ease with which the animal body performs the difficult chemical operation of transforming C. into F. suggests that under appropriate conditions it might effect the reverse change.

Such a conversion is of normal occurrence during the germination of fatty seeds; starch, sugar and cellulose being formed at the expense of the stored up fats of the seeds. And is not the hibernation of animals an indication of the reverse change of fats into carbohydrate? Why can't the same thing happen in the human body under certain conditions? As a matter of fact, the great laws of conservation of matter and energy hold good also in the processes taking place in the human organism. With these fundamentals fixed in mind, we may now consider what available remedies we have for the successful treatment of diabetes. The following have been used with considerable success and will be taken up in this order, trypsinogen, cellasin, intarvin and insulin.

As near as I can find out, credit for the first pancreatic preparation for use in diabetes, should be given to G. W. Carnrick of New York, who developed this trade pre-

paration in 1904 for oral use. Trypsogen contains the internal secretions and ferments of the pancreas (total gland) and suitable doses of the bromides of gold and arsenic for their anti-adrenal effect. It exerts a profound influence over nutrition as is usually shown by a marked increase in weight and strength and general betterment of condition while the polyuria and glycosuria are gradually decreased. In using this preparation, four steps are important, *Elimination*, consisting first of fasting and taking a daily saline. *Alkalization*, an attempt to restore the blood and tissues of the diabetic to something like normal alkalinity by using salts of sodium, potassium and calcium. (Alkalization is favored by some authorities and not by others). *Restore normal digestion*. The proteolytic and lipolytic ferments in the tablet aid more thorough digestion of protein and fat. *Restore metabolic function*. By raising the alkalinity and improving digestion, the patient is able to burn up sugar to a greater extent.

The writer and many of his friends have used this tablet for a number of years with remarkable results. With a carefully prepared diet and a proper adjustment of dosage of trypsinogen, patients who have had loss of weight, 10% of sugar and carbuncles, have been able to keep at work, gaining in health and strength. This information may be passed along to lend emphasis to the inaccuracy of statements of those who still insist that pancreas preparations are inert when given by mouth. The successful treatment of diabetes includes three important things: first, relieving the islet cells of as much work as possible; second, increasing the pancreatic internal secretion and assisting the functional restoration of the islet cells by a suitable organotherapy, and third, relieving toxemia and modifying the nervous and sympathetic circumstances (stress, worry, mental fatigue), thereby reducing the coincidental adrenal excitability. The trypsinogen tablet does all these things successfully, and its oral administration seems to exert a homostimulative action upon the islet cells, slowly perhaps, but lasting in its effects. There seems to be no real reason why we cannot call diabetes an endocrine disease.

Diabetes may also be combated by cellasin, a sugar and starch splitting ferment, derived from fungi, grown in specialized culture mediums. It is indestructible in acid or alkaline media and is therefore not likely to be destroyed by gastric digestion. It emulsifies fats and because of these properties has great value. The writer has been treating three diabetics for the past six weeks with this preparation. Thus far, the volume of urine, sugar, and specific gravity has been reduced and a marked improvement in the general health of the patients has been noticed. I have had no experience with intarvin, a synthetic fat, but it is well to take note of it. It is chemically known as glyceryl margarate and its therapeutic value depends on the fact that margaric acid contains an *odd number of carbon atoms (17) instead of an even number* as do all the fatty acids that are present in the fats and oils furnished by nature. Most of the toxic disturbances in diabetes are due to partially digested fatty acids which contain *four carbon atoms*, as oxybutyric, butyric acid and aceto-acetic acids. It is this last one which breaks down to give acetone, a substance which shows in the urine and breadth of diabetics. It is the presence of these acids which give rise to the condition known as acidosis or ketosis.

Dr. Max Kahn, of Columbia University, came to believe if one would start with a fat containing a fatty acid of *odd carbon atoms*, there would not be obtained on digestion an acid containing four carbon atoms, that is, the objectionable aceto-acetic acid. Trials of these

artificial fats on one hundred patients showed the prompt loss of acidosis and caused a general improvement in health and strength.

We now come to insulin, the active principle derived from the islands of Langerhans of the pancreas, which was discovered by Doctors Banting and Best, working in the physiological laboratory of Dr. MacLeod at Toronto University. Eli Lilly Co. have been given the privilege of putting out the product in this country under the trade name of Iletin.

The great value of insulin in diabetes has been conclusively proved. While it cannot be considered a cure in the usual sense of the word, it has enabled the diabetic patient to regain strength and health and to utilize carbohydrates as long as the use of the extract is continued. It is used hypodermically; given orally it is ineffective. According to certain observers, one unit of insulin usually enables a severe case of diabetes to utilize from one to two grams of additional glucose. The accepted methods of dietary feeding and management have not been changed materially, as a matter of fact, such regulation is *even more necessary with insulin than without it*. It is especially important in using insulin, to have a well grounded knowledge of the use of caloric feeding and of the physiological chemistry of digestion. The *first step* prior to beginning treatment with insulin, is to *find out the total glucose tolerance of the patient*. This may be done in one of two ways; either by completely freeing the urine from sugar or by estimating the average daily excretion on a known and constant glucose intake. In case the patient becomes sugar free on the selected diet, the number of calories in the diet is increased gradually by repeated additions of small amounts of carbohydrates and fats until a working diet is attained or sugar appears in the urine. We may then do one of two things. We may inject one or two units of insulin, three times a day, before meals, gradually increasing the number of units if necessary until the patient is desugarized. Or we may inject one unit of insulin daily, for each 1½ to 3 grams of glucose excreted, based on the average of the preceding two or three days. If in this case sugar continues to be excreted in significant quantities after the second or third day of insulin, the dose may be cautiously increased until the urine becomes sugar free or nearly so.

The great secret of success in the insulin treatment of diabetes, lies in the correct balancing of the diet against the dose of insulin to be employed, and the exercise of eternal vigilance by the patient and physician.

When a patient on an initial diet has been desugarized, his diet is increased by the addition of 5 to 10 grams of carbohydrate and 10 to 20 grams of fat, to yield from one to two hundred calories, and if sugar appears in the urine in significant amounts for two or three consecutive days, the patient is desugarized by increasing the dose of insulin. Further additions of carbohydrate and fat are then made to the diet in approximately the same amounts and proportions as were previously employed. If no sugar appears in the urine after two or three days, a further similar addition to the diet is made. In the event of sugar reappearing in the urine in significant amounts, a compensatory dosage of insulin is employed. This step by step method of increase of diet alternating with increase of insulin dosage is followed until the patient is receiving the required amount of C.P. and F. to afford a final or maintenance diet, which is safe, palatable, and designed to meet fully his needs.

(Concluded on page 42)

Insulin: Its Expectations and Limitations*

HENRY S. STARK, A.M., M.D.

New York.

The discovery of insulin is the most auspicious example in recent therapy, of the association of an applied with a pure science. A brilliant chapter has been contributed to speculative medicine through the agency of this biochemical study. In therapeutic importance insulin ranks adrenalin and thyrotoxin but is outranked by diphtheria antitoxin and salvarsan.

The events associated with this far-famed discovery have now passed into medical history. It ought therefore to be possible to draw up a balance sheet, which would display on the credit side what insulin has accomplished and on the debit side where it has failed to meet our expectations. Though an undercurrent of dissatisfaction has come to the surface, we must still maintain an attitude of conservation in our final appraisal of the extract, remembering that it is neither a specific nor a cure. Banting himself states it will be several years before its effectiveness will be known.

If the thousands of diabetics who have taken the treatment could be marshaled before a jury of internists to give their own version of the results, we would soon learn whether the improvements claimed for insulin, by clinicians, were mere therapeutic sophistry or psychotherapeutic effects.

Insulin is an adjunct to the dietetic treatment, which latter is always at the forefront in the intelligent treatment of diabetes. Dietary control is still more imperative than insulin dosage, while both must be carefully adjusted to the end that the blood-sugar be maintained near the normal.

Different patients react toward insulin very differently for the reason that there are various types degrees and stages even of pancreatic diabetes. Each case must be carefully typed, endocrine glycosurias should be excluded; coma must be carefully typed to exclude non-diabetic coma.

In this connection the question arises, what diabetics should be selected to receive insulin and which should be excluded. Personally, I believe, that there are few cases of diabetes which are not amenable to insulin. The one type that may not benefit by this treatment is comprehended in the following description; the confirmed diabetic without symptoms, usually over sixty years old, whose sugar metabolism is readily controlled by dietary measures, and above all who has no cardiac nor circulatory disturbances that are liable later to terminate in an obliterating endarteritis or in gangrene. All other diabetics should be encouraged to take the treatment. To this latter category belong juvenile diabetics, pre- and post operative diabetics pregnant diabetics, tubercular diabetics, also senile diabetics threatened with serious complications. A division of diabetics into a mild and a severe type for the purpose of deciding on the use of insulin, is not judicious. Potentially there are no mild types; a so-called mild type may become converted into a severe type over night.

There have been recorded a number of so-called acute cases, or diabetes in the very earliest stage of the disease which have been markedly improved or permanently arrested by insulin. So why limit the use of insulin to the very severe cases? That policy was likewise the vogue during the period of the fasting or starvation method of treatment, without any justification. To

wait for a mild disease to become severe, before treatment is instituted, is a therapeutic fallacy.

The therapeutic value of insulin was epitomized in the frank declaration of Joslin that insulin does not cure diabetes; in other words only an ephemeral amelioration of symptoms is all that can be hoped for in a generality of selected cases. Those who have employed it extensively have met with brilliant results at times and with notorious failures at other times. It seems difficult to prognosticate as to results in any given case, nor could anything else be expected when it is recalled that the etiology and pathology of diabetes are still in doubt.

There is abundant evidence that diabetes is oftentimes not only due to a failure to metabolize carbohydrates, but of proteins and less frequently of fats. In the aggravated cases, this phase is the rule rather than the exception. This masked or dual phenomenon of sugar metabolism opens up a new vista with regard to the potency of insulin for the thought occurs, does insulin exert its effects on protein metabolism or in other words in cases in which sugar is formed from proteins almost to the exclusion of carbohydrates.

Thus far it is known that insulin enables, the patient to utilize carbohydrates and that it has no effect on protein nor fat metabolism. Insulin acts as a tonic to an over functioning pancreas, but the tonic effect lasts only a few hours or just so long as the effects of the insulin lasts. The action of insulin is a functional or a physiological one. It never yet has been demonstrated to exert a favorable influence on the diseased pancreas parenchyma, whether acinous or insular. Once these structures become pathologically altered, restitution to the normal never takes place, the most that can be hoped for, is an arrest of the progress of the lesion. Insulin does not, as far as we know today, regenerate diseased islands of Langerhans, it simply makes up for the loss of the pancreatic hormone. How this is accomplished is a matter of conjecture, for the reason that the chemical composition of insulin is not definitely known in the sense that we know the composition of animal secretions. Insulin has no specific predilection for pancreas tissue and if it did have, we would still have to consider other organs that are involved in glycogenesis, namely the ductless glands, the liver, the muscles and the portal circulation.

But what has a greater bearing in deciding upon the merits of insulin is the fact that we cannot, today, point to any constant anatomical basis, the islands of Langerhans not excepted from which a conception of the pathogenesis of diabetes can be formed. Diabetic pathology changes every decade and as a corollary, so does diabetic therapy. Nevertheless the results speak for themselves, for it can justly be claimed that since insulin has come into use, the mortality from diabetes will show a lower rate, the tenure of life of the diabetic has been extended, while the serious complications can be held in check.

In a given case, where observation has established the fact of a dual mechanism the exhibition of insulin is, nevertheless, indicated in order to effect sugar combustion. These cases do best on a diet of low proteins, low carbohydrates, but high fats. But of course as with all cases on a high fat dietary, these cases must be rigidly controlled. Such a diet pro-

* Read at the November, 1923, meeting of the Eastern Medical Society.

vides sufficient calories to support a nitrogen balance and to evade a glycosuria and a ketouria. This selective faculty of insulin for carbohydrates to the exclusion of fats and proteins, accounts for many failures of insulin, and incidentally establishes groups of the disease which require differentiation before treatment is begun, and also points to the composite morphology of diabetes itself. Through the researches of Shaffer, Newburgh and Marsh, and of Woodyatt on this phase of dietary control, it has been made possible to construct a dietary formula which prescribes the food requirements in a given case. Without such a preliminary, the use of insulin will fall flat.

I cannot think of a more decisive test of the merits of insulin than that derived from a check up of its effects on the symptoms of the disease. Among the ravages of the disease that insulin is expected to combat, the following are the more pronounced. (1) Failure to assimilate carbohydrates, (2) the abnormal production of organic acids, the prodrome of coma, (3) Chronic destructive processes of tissue, organs and skin, (4) diminished resistance to infections.

Failure to assimilate carbohydrates. In this phase of the disease the potency of insulin is most apparent. It is almost a specific, for there are few instances of impaired carbohydrate metabolism that fail to respond to insulin, and what is really remarkable is that a percentage of patients after becoming glycosuric remain so for an extended but uncertain period after stoppage of the injections. In my own practice I am able to report three cases that have remained sugar-free for over three months after discontinuance of insulin. These very cases were under observation for years before the discovery of insulin without it ever being possible to rid them of sugar by any known method. How long they will remain aglycosuric cannot be predicted. Several of my patients not only reached a normal blood sugar level, but were able to hold it in the face of added carbohydrates to the dietary. How this return to the normal is effected is problematical. Two possible explanations occur to me, either insulin activates the combustion of sugar or it decreases sugar production; in either case it seems to control the hyperglycaemia. The possibility that diabetics who respond readily to insulin may become hypoglycaemic, should not be overlooked, else disastrous consequences may ensue. In such suspected cases, it has been suggested that a buffer dose of a carbohydrate, for example, glucose, be given as a prophylactic against a hypoglycaemia. As a measure of precaution, in diabetics with very low urine-sugar percentages a control test for glucose should precede an injection of insulin.

Abnormal production of organic acids. Whatever differences of opinion there may be as to the causation of diabetic coma, opinion is a unit that insulin finds its greatest field of usefulness in this terminal phase. Before the days of insulin, profound diabetic coma spelled death; notwithstanding the aid of insulin most diabetics in deep coma still succumb, but there remains an increasing percentage of diabetic comas that respond miraculously to the insulin treatment, and these confirm the claim that insulin is a life-saving expedient. Naturally in a number of such cases, the results are temporary, while a fatal relapse is always imminent.

One of my patients with cardiac and pulmonary complications came out of a deep coma within six hours. Two intravenous injections of 3 c.c. of insulin one hour apart were given, two hours later an intramuscular injection of 2 c.c. was given. One hour later he came out, his mind was clear, his breathing was normal and he

has remained so over a period now of three months. I believe nothing known to science, other than insulin could have tided the patient over this critical climax.

In deep coma I prefer the intravenous route, at least for the initial dose, while in the early prodromal stage the intramuscular route. The amount of insulin required is gauged by the patient's reaction and response; as is to be expected heroic dosage is indicated. As an adjuvant to the insulin dosage, intravitravenous injection of dextrose and soda bicarbonate are helpful. I usually inject intravenously 50 to 75 c.c. of a 50% sterile solution of chemically pure dextrose. The effect of insulin is transitory, lasting in humans about three to four hours; to insure results in deep coma, naturally its action must be sustained by repeated doses, depending upon the degree of acidosis and of glycosuria, as determined by chemical tests.

Chronic destructive processes: It is the natural tendency of diabetes to provoke degenerative lesions of organs and tissues, in addition the patient is susceptible to intercurrent diseases, and displays a minus resistance to infections. A toxæmia of doubtful nature is, no doubt, the substratum of this phenomenon. The infections are local or general.

What effect if any, has insulin on these infections? I have already mentioned that insulin exerts its effects on carbohydrate metabolism by activating or stimulating it, but I questioned whether it influenced the underlying pancreas lesion. Nevertheless, it has been the common experience of many observers that the use of insulin was followed by most favorable results in pyogenic processes, such as carbuncles, furuncles, and skin lesions.

It seems to arrest the infection by arresting the toxæmia of acidosis and of glycaemia. Gangrene is likewise influenced unless the destructive process is beyond anatomical repair. I have the best reason to believe that several of my patients suffering from gangrene were spared amputation or yielded to more conservative surgery due to a gradual retrogression of the hyperglycaemia and the acidosis.

No one expects that insulin will replace surgery, but it has been proven that it renders urgent surgery, safer. Nor can we expect that it will stay the progress of an arterio-sclerosis or an obliterating enteritis, nevertheless it has been amply demonstrated that the prognosis of gangrene is better when the blood-sugar level approaches the normal; for it was observed that ulceration would be arrested, sinuses would heal and cicatricial repair commence. Here I might allude to an improvement noted in neuralgia and in peroneal and sciatic neuritis, of local rather than of central origin. In these complications when the tendo Achilles and the knee reflexes are nearly normal, I make a favorable prognosis regarding the relief of pain.

The pre- and post-operative diabetic is today a much better surgical risk, than he was in preinsulin days. He goes to the operating-room fortified with insulin with glucose injection and with a carbon dioxide tension as favorable as can be secured under the circumstances. These innovations make for the safety of the patient and will ere long assert themselves in a notably reduced mortality. Operations of choice in diabetics for non-diabetic lesions will also be made feasible and comparatively safe. A final appraisal of the value of insulin, is a problem for the near future. It has proven its worth, and has been endorsed by the leading medical men of the world. I think it is safe to predict that its discovery will prove an incentive to future innovations in therapy, possibly of a startling nature.

1309 Madison Ave.

A New Treatment for Acidosis and Diabetes*

SAMUEL STERN, M.D.,
Atlantic City, N. J.

In presenting this preliminary report on a new treatment for diabetes and acidosis—Cholesterine Citrate Dimethyl Benzol—a review of the normal physiologic, and diseased or pathologic states, as they occur in the body, is presented in order to give a clearer conception of the many complex problems.

Diabetes mellitus is the term applied to the presence of sugar or glucose, a hydrocarbon in the blood or urine in a pathologic state.

Glycemia, or normal sugar, is an essential physiologic element or state, and is stored in the form of glycogen; and as such is a veritable storehouse of nutrition and energy in the daily processes of life.

Hyperglycemia denotes a pathologic state or excess of glucose in the circulating fluids, or urine; and it is the true diabetes mellitus. Here I would observe that glycogen $C_6H_{10}O_5$ by the addition of water H_2O will be converted into glucose, its probable chief source of supply. The abstraction of one molecule of water causes the conversion of glucose into glycogen. This change is a constant physiologic or pathologic process of metabolism.

Of glycogen's origin, its chief source is from the liver by oxidative processes of carbohydrates or hydrocarbons. Starches are carbonhydrates; sugars, fats, and alcohols are hydrocarbons; proteins are hydrocarbon compounds with nitrogen, and at times with sulphur added. These substances are the essential foodstuffs of life, and, when normal physiologic balances are maintained, cause us no concern; but when metabolism is perverted, pathologic processes or states ensue, chief of which is an acidosis.

Acidosis is a term which has attracted attention in medicine within the last decade only; and it is a general term. To date no attempt has been made to classify these conditions properly. I herewith submit a suggestive grouping which is original, and which embodies the more important physiologic and pathologic acids that appear in the body:

MINERAL

Essential	Primary	Hydrochloric, phosphoric, nitrics
	Physiologic	from the free ammonias, and proteins; sulphurics from the sulphates and proteins.

VEGETABLE

Acetic, formic, tartaric, oxalic, and mallic.

ORGANIC

Non-essential		Ketones: acetone, butyric, oxy,
or superfluous		and beta, diacetic acid, etc.
	Secondary	
	Pathologic	

INORGANIC

Amminoacids (19 recognized; many more probable) carbonic acid. Phenols.

PHYSIOLOGIC

Primary = Hydrochloric, carbonic, phosphoric, acetic, lactic, formic, some ammino acids.

Secondary = the remainder of the group tabulated.

PATHOLOGIC

Primary is due to metabolic changes promoted chiefly by diet.

Secondary is due to dietary indiscretions and disease processes.

Primary: a condition chiefly of the Ketone variety seen in children, and starvation, and malnutrition, etc.

Secondary: found in most febrile states, such as Asthma, senility, etc., are of the ketone ammino acid and mineral groups.

Of these we are mainly concerned with the ketone series. It is not within the scope of this preliminary report to enter upon an exhaustive resumé of all the phases of these conditions; or into all the literature concerning them. I will, however, point out the salient factors, or dangers, in these states. Ketosis, E. G., the ketone bodies or acids, causes, in most instances, the greatest difficulties that occur; and may often produce the fatal ending. Chemically, the ketones are alcohols or hydrocarbons formed in the processes of body metabolism. As to their production, I will refrain from entering the academic discussion surrounding them, though I would note their pathologic importance; and record acetone, diacetic acid, beta, oxy, butyric acids as the accepted offenders; and use the term ketones, or ketosis, in my future references to them.

Concerning the chemical and physiological factors, we have noted the terms carbohydrates and hydrocarbons and proteins. Chemically, carbohydrates are $C O - O H$; hydrocarbons $H C O - O H$; proteins $C O - O H N$, and su. The body can convert any of these compounds into one another at some time in food reduction for assimilation, or energy. This is accomplished by enzymes, ferments, and hormones. It also occurs in a compensatory manner when any of these elements are lacking in the body economy due to disease or dietary causes, and suggests a law of physiologic balance, or compensation, or adaptation.

To wit: That hydrocarbons may become carbohydrates, or the reverse; or proteins may be converted into carbohydrates or hydrocarbons. This is undoubtedly an oxidative process accomplished chiefly by the amminoacids in a proteolytic or catalytic manner. Without this and other compensatory reactions, our lives would be daily destroyed due to indiscretions, chiefly dietary.

A word as to enzymes, ferments, and hormones: Their function is one of oxidation or hydrolysis, and is a natural functional or physiologic state. The compensatory powers already alluded to are additional safeguards in the body metabolism; and in these processes we are chiefly concerned in the probable absence of normal physiologic ferments resulting from perverted metabolism, and the ensuing acidosis.

We have recognized the ferments and their role in the conversion of the sugars and starches. Do not, however, overlook the hepatic functions in this same capacity. I have pointed out the physiologic law of compensation, balance, or adaptation, which is a factor we chiefly depend and build upon. I have spoken briefly of the normal physiological states, and have noted that their conversion of foodstuffs was dependent upon enzymes oxidation, or hydrolysis, or in the absence of these drawing upon compensatory elements. And this brings me to our remedy for glycosuria, and at the same time provides for acidosis, in an organic compound—cholesterine Citrate Dimethyl Benzol—which is a compensatory agent.

In cholesterine citrate dimethyl benzol $C_{41} H_{59} (OH_n) (H_2O_n)$, we have a hydrocarbon rich in ele-

* Read before the Atlantic County Medical Society, Nov. 9, 1923.

ments, unstable chemically only in so far as it will readily break down, and give up its molecules by the process of ooxidation, hydrolysis compensation, or adaptation; and will convert the glucose into a pentose sugar, which does not react to fehling's; and it is further broken up into alcohol, acetic, formic, and carbonic acid, and water. The ketones are converted into aceto-ethers, acetic acid, methyl alcohol, carbonic acid, etc. The amino-acids, by reason of their long chain series into other compounds, are not so toxic, but are more ready for conversion into ureas. We are, therefore, at once eliminating the danger of acidosis, of whatever source or kind, converting the glucose into foods, or harmless products, thereby eliminating the possibility of its producing dangerous acids; and we are still retaining its food properties for sustenance.

As to its administration: It cannot be given through the mouth, owing to chemical changes, and the probability that the product would pass through without absorption. As an inunction through the skin, we have succeeded well in administering our treatment. Our failures at first were due to its use as an ointment, merely applied to the surface. We have therefore been careful to instruct our patients in its proper use, which is **always** as an inunction. Any skin surface will answer. We caution against any surface with hair, as the friction occasioned in its application causes discomfort. As to the dose: $\frac{3}{4}$ T I D or B D for mild cases; for severe cases, it should be applied every two or three hours; or larger quantities even may be used.

We have succeeded in reducing sugar from $3\frac{1}{2}$ per cent to zero. I have applied it in several varieties of cases of acidosis,—from the coma of nephritis to the simple acetomæmia group. In cases of pernicious nausea and vomiting of pregnancy, its results

were startling to the family, both as to the novel method of treatment and the rapidity of its correction of the symptoms, and the comfort obtained; and it was declared a miracle worker. In fact, that name for it has been suggested by many recipients of its benefits.

In conclusion, I beg you to note that we have made *no* claims for cures. While we have obtained relief, and maintain that it will equal anything yet offered, we are skeptical that a permanent cure will ever be accomplished. Further, we have no desire to detract from the valuable work and stimulus supplied by Banting and his co-workers. Our efforts have been confined to the supplying of a simpler and safer method, one that can be used by anybody, which is free of any danger to the patient, and which is without the demand for painstaking and highly technical preliminary study of the individual patient, as is absolutely necessary in the use of insulin. We have in our treatment (a forerunner of our researches that we are continuing) a remedy that meets the requirements of science, safety, simplicity, and specificity.

Exhaustive researches were also conducted with yeast, with and without other ferments, during these investigations and eliminated. First on account of its instability; secondly, in many instances it raised the urinary sugar instead of reducing it.

In speaking of the cream, in order to overcome the long chemical name, we have selected the word Spad, from the initials of a suggestive title: *Solution of the Problems of Acidosis and Diabetes*.

I desire to acknowledge the valuable assistance rendered me by Mr. Miles, a chemist, and by Mr. Schlenker, for several valuable suggestions and for material aid.

2815 Pacific Ave.

Our Therapeutic Attitude Toward Pneumonia*

EDWARD E. CORNWALL, M.D., F.A.C.P.
Brooklyn, New York.

Present day medicine follows the spirit of the age and is characterized by many and rapid changes, not all of which mean true advance. But there is one recent change in medicine which means a real and great advance, viz., the change in getting away from the domination of the pathological point of view in diagnosis and moving toward the physiological point of view.

A few years ago the prevailing ideal in diagnosis was to identify the changes in the patient's structures produced by his disease which could be revealed in the dead house. The slogan was, get the pathological picture in your mind; and to make a pathological diagnosis and have it confirmed by the autopsy seemed to many the acme of scientific medicine. Now it is becoming recognized that the diagnosis which means most for treatment in most cases is the physiological diagnosis: how the living organism is reacting to the disease, what modifications or perversions of function are being produced by it, and what functional deficits there are which call for therapeutic aid.

The importance of the physiological diagnosis in diseases of the heart is widely recognized; its importance in pneumonia seems not less obvious in view of the fact that we have no reliable specific treatment for that

disease but must rely on physiological support. From the point of view of physiological support it is of more importance to know how the alimentary tract is behaving and to what extent the circulation is being maintained, than it is to know the exact location and extent of the areas of consolidation in the lungs. And the physician who fails properly to modify the diet in the presence of diarrhoea or tympanities (or prophylactically of them), or who turns the patient over to examine the back of his chest in the presence of notable circulatory embarrassment, fails to meet therapeutic indications given by the physiological diagnosis.

I referred to our lack of a reliable specific treatment for pneumonia. I need not dwell on the many drug specifics which have been proposed. They come and go, and the wonder is, how they get their temporary vogue. The problem of finding a drug lethal to bacteria in a general infection and harmless to the human tissues has never yet been solved, and the prospects are not encouraging. The case is different with plasmodial diseases, for a few of which drug specifics have been found.

In regard to biological specifics the problem is altogether different; it seems *apriori* soluble, and has been solved in a few cases; and we are justified in looking forward to its solution in pneumonia. But as yet we have no such specific for pneumonia of established reputation.

(Concluded on page 45)

*Part of a discussion before the Greater New York Medical Association, Dec. 17, 1923.

The Interpretation of Some of the Abdominal Pains*

CLARENCE F. KERCHEVAL, M.D.

Greensburg, Ind.

We are not attempting the complete interpretation of abdominal pain, but desire to start a discussion from which we may learn.

For convenience we will divide the abdomen into four parts by two lines, one passing from the ensiform south to the symphysis pubis, the other east and west through the umbilicus.

In the upper right quadrant we have the head of the pancreas, liver, gall bladder, pylorus, duodenum, the ascending, and part of the transverse colon, and the right kidney. In the lower right quadrant are the caecum, appendix, terminal part of the ileum, ureter, and as a factor in abdominal pain, the right adnexia of the uterus. In the upper left quadrant are the major part of the stomach, body and tail of the pancreas, spleen, jejunum, transverse and descending colon, and the left kidney and in the left lower, the left ureter, sigmoid, part of the small intestines, and the left adnexia. Of course, each quadrant has some of the small intestines.

A simple inflammation of any of these structures, with the possible exception of the kidney, is likely to produce pain.

The acute paroxysmal pain in the right upper abdomen and accompanied by vomiting, the pain being referred to the back under the upper part of the right scapula, which accompanies the passage of a gall stone, is too well known to be dwelled upon.

Acute pancreatitis is one condition within the abdomen which is rarely diagnosed before operation. Its symptomatology should be remembered. It is a very infrequent condition, but so dissimilar from other abdominal calamities that it should not be overlooked. There may be a history of antecedent dyspepsia, which has nothing of the characteristics of gastric or duodenal ulcer, but which prevents rather the symptoms of the presence of gall stones. Jaundice may have been noted on one or more occasions. The severe pain comes quite suddenly, is almost beyond the limits of human endurance to withstand, is associated with profound collapse, and may cause the patient to swoon. Limbs are cold, the pulse extremely poor, rapid and thin, or at times hardly palpable. The face is cyanosed; the upper abdomen is exquisitely tender and the muscles absolutely resist the most careful examination. In fact, any effort to examine will be resented by the patient on account of great pain. Vomiting is an early and conspicuous feature.

Let us next consider gastric and duodenal ulcers. The regular recurrence of pain within one and a half hours after each meal, pain lasting from one-half to one hour, depending upon the amount and kind of food eaten, with hematemesis in one-fifth of the cases, should be suspicious of gastric ulcer. Should the pain be deferred two or more hours and continue until food is again taken, the lesion will probably be in the duodenum. No amount of evidence in either of these conditions is complete or conclusive, however, until verified by the X-ray. Other lesions within the abdomen will give the same symptomatology. No less an authority than Sir Berkeley Moyni-

han has made the statement that "Most cases of gastric ulcer are located in the right iliac." Aside from chronic appendicitis, tuberculosis of a segment of bowel, cholelithiasis and other abdominal conditions may express themselves in terms of gastric disturbance simulating gastric ulcer, thus adding to the confusion in diagnosis. During the course of an active ulcer the most significant subjective symptom is pain. Pain invariably follows a greater or less period of relief after every meal.

Cancer of the stomach is not always so apparent. If, however, it is near the pylorus and interferes with the proper drainage of the stomach, and is accompanied by cachexia, it is very easy to diagnose. Given a cancer near but not approaching upon the cardiac and the diagnosis is not written upon the patient's forehead by any means.

The writer saw a case in a fellow physician, which had been classed by some good diagnosticians as neurosis after it had been present for eleven months. At thirteen months, when it came under the writer's observation, the patient had no trouble with digestion, appetite was good. Ten pounds loss in weight, and a constant aching below the ensiform with weakness were the most pronounced symptoms of the disease. A slight jaundice with a chronic appendix offered an apology for opening the abdomen, at which time the cancer, situated on the lesser curvature and extending onto the posterior wall, near to but not encroaching upon the cardiac, was discovered. After a rather stormy first week the patient rallied, his pain subsided, he gained his lost weight, and resumed his practice. Deep radiation was tried, but his gain was short lived and he died in about twenty months from the earliest symptoms.

In consideration of the kidney the writer recalls a statement of the late Dr. Marvel, of Louisville, that the only conditions of the kidney which would produce pain were stone and abscess, and these he said were "more agonizing than the tortures of the damned."

Coming down to the right lower quadrant, an acute, agonizing pain, paroxysmal in character, and referred to the penis or testicle of the male or the labia of the female would point to a renal stone, probably in the ureter. A pain not so acute at first, gradually increasing to a maximum, then suddenly subsiding, and followed by the passage of a large quantity of urine in a short time, would rather indicate a twisted ureter from a prolapsed kidney.

In this quadrant we also have the arch enemy of the human economy, the appendix, responsible for 70 per cent of the abdominal sections, but not responsible for all of the pain in this region. Lane's kink of the ileum causing some obstruction of its lumen, or a Jackson's membrane binding the caecum to the lateral abdominal wall, thus limiting its mobility, will produce symptoms not easily differentiated from a chronic appendix. Many appendices have been removed needlessly and without relief from symptoms when one of these conditions have been the cause of the trouble.

Perhaps the one symptom of tenderness of the fused ganglion of the fourth and fifth lumbar sym-

(Concluded on page 47)

* Read before the Decatur County Medical Society, Greensburg, Indiana, November 2, 1923.

The Asthma Problem in Children

F. RAOUL MASON, M.D. and HAROLD CHANDLER CLARK, M.D.

ASSOCIATE AND INSTRUCTOR IN PEDIATRICS IN NEW YORK POST GRADUATE MEDICAL SCHOOL AND HOSPITAL.

New York.

It is quite obvious to most physicians who have made a careful study of bronchial asthma that this subject is far from simple and that its etiology as well as its successful treatment depends on many factors.

It is the custom to consider bronchial asthma as a disease entity in itself. This is unfortunate, for after all, bronchial asthma is a SYMPTOM which may be due to many causes. Furthermore, it is my impression that repeated cough, or bronchitis and bronchial asthma are manifestations of the same phenomenon in increasing degree of intensity.

Clinically asthmatic children will usually give a history of first a persistent cough, then frequent bronchitis and finally typical attacks of bronchial asthma. Confirmatory proofs are also to be found in quite another direction: It is not unusual among children giving positive skin reactions to rabbit hair, let us say, to find that those with only mild reactions have as chief complaint a chronic cough, those with more severe reactions, chronic or recurrent bronchitis, while those with severe attacks of asthma as a rule give a very severe epidermal manifestation. In one such case under our observation the reaction was so severe as to cause a definite ulceration of the skin a few minutes after the application of the protein. (The test was repeated with a greater dilution and a similar result was obtained). While we are using the scratch test and therefore do not administer a definite quantity of protein each time so that we cannot make too definite a statement, we at least believe these findings to be suggestive.

It is rather unfortunate that we have no name under which we can group these cases. Allergic respiratory difficulties would not cover the field, as a certain number are not hypersensitive to any substance. For want of a better nomenclature we content ourselves with the designations: "Asthmatic cough," "Asthmatic bronchitis" and "bronchial asthma" to cover the whole group.

How are we to make a diagnosis of these various types of "asthma"? Very often the physical signs are absent except during severe attacks. In many cases we make the diagnosis of asthma only by elimination, namely when we have a chronic or repeated respiratory disturbance which cannot be explained in any other way. It is quite obvious that if such a rule is adhered to, a certain number of non-asthmatics will be included. As a matter of fact in probably every asthma clinic a certain number of such cases could be detected. In our own clinic for instance, we treated for several months a child with a foreign body in the lungs who for two years, at intervals, had been having what appeared to be typical attacks of bronchial asthma. More recently, we discovered in a child of five years of age an enlarged thymus. No symptoms had been present during the first two years of life and "asthmatic attacks" had only developed after a severe summer cold.

In diagram 1, we have given an outline of the various causes of "asthma" as we conceive it. As will be seen, we have divided our cases into: allergic, bacterial and reflex, the reflex cases being mainly due to peri-

bronchial changes resulting in a stimulation of the vagus. It must however be well understood that very few asthmatics are found belonging to one group alone. For purpose of illustration we will quote the following instances. A child following influenza may become sensitized to feathers from his pillow. This leads to a chronic irritation of the bronchi with a resulting chronic bronchial infection which in turns causes peribronchial changes and enlargement of the mediastinal glands. Such a case, when the offending pillow is removed, shows only a slight improvement; then gradually the infection may clear up of itself or with the help of an autogenous vaccine. A few greatly attenuated symptoms may persist, these under alpine ray therapy or sunlight rapidly disappear.

Diagram 2 explains in detail the various steps taken in handling our patients. It is of interest to note that our weight charts and the improvement of the cases go hand in hand, so we can practically in every instance tell if the child has had any attacks or not by following his weight. This is of some importance in this respect that many children are called tubercular because they have a chronic cough, a positive d'Espigne sign and are losing weight. Such symptoms may be entirely asthmatic in origin. In order to avoid any misunderstanding, it must be understood that tuberculosis and asthma are quite frequently met with together in children and that the general condition of these children will be greatly benefited by the removal of the allergic cause. We also believe that the peribronchial changes of mediastinal tuberculosis will in themselves be sufficient to keep up the asthmatic symptoms once the allergic cause is removed.

When a child comes to our clinic we give him a careful physical examination and note any defects present. We do not, however, recommend removal of the tonsils or nasal defects until the allergic causes have been eliminated. (Surgical operations often causing an increased absorption of inhaled proteins). We next ask a certain number of standard questions which we have found useful by experience (see Diagram iii). This will sometimes put us on the immediate track and steps are taken to remove the offending factor, such as: Hair pillow, rabbit fur, hair toy, pet dog, etc. . . . As a routine we advise all our children to sleep on cotton pillows and mattresses as these are least likely to produce bad effects.

We next test our children for a limited number of foods, so that we can place them on a non-allergic restricted diet on which they can be kept for a long period of time. Such a diet should consist if possible of milk, eggs, wheat, several vegetables, a meat and one of two fruits. This immediately eliminates foods as a factor in asthma. Only a very small percentage of asthmas are due to foods. When these give positive skin reactions, they are more likely to give rise to skin or gastro intestinal disturbances.

The various emanations are next tested out and it is in this group that most allergic cases are to be found. Asthmatics having intensified symptoms during the summer months must also be tested for pollens but most allergic cases are due to skins or

furs from various animals. In fact, any animal may be responsible. Rabbit hair, feathers and horse dander being the most common in order of frequency. A careful examination of the home will sometimes lead to result. In most instances the removal of the source of the emanation is sufficient to clear up the symptoms with the exception of rabbit hair which seems to be more virulent than any other emanation and is to be found in felt, pillows and of course various furs. In the winter months, for instance, it would be practically impossible to get in the subway and not come in rather close quarters with a camouflaged cone or at least the fur of some other animal biologically very closely related to it. For this reason, rabbit hair is the one emanation to which we as a rule have to desensitize our patients to obtain results.

Our next step (should the symptoms still persist) consists in the administration of an autogenous vaccine from the sputum of the patient. Lately, we have also been using beef peptone in some cases with very satisfactory results. Peptone incidentally gives a positive allergic reaction in a large number of asthmatics and appears to act as a polyvalent desensitizer as well as a non-specific protein. As we believe that the results obtained are due to the mild anaphylactic reaction produced and as the reaction depends on the rapidity in which the substance is introduced, we use as strong a solution as can be obtained which is about $\frac{1}{3}$ peptone mixed with $\frac{1}{3}$ glycerin and $\frac{1}{3}$ water (by weight) and inject subcutaneously one or more minims—increasing the dose until we obtain a slight reaction at the site of injection. We have also used peptone by mouth as advised by Widal and others. It has occasionally prevented the occurrence of asthma due to foods but more uniformly has resulted in marked improvement in appetite and digestion.

We no longer test our cases out with bacterial protein, these apparently not being of much value. We have however had one case giving a positive reaction to pneumococcus which was never isolated in the sputum. A stock vaccine of this organism gave severe reactions but resulted in a complete cure of the child.

It has been our experience in the past that while a large proportion of our children were very much benefited or entirely cured by following such a course we had left a certain number of cases rebellious to any procedure or only improved. Nearly all such children show a positive d'Espigne sign and what is more reliable evidence under the x-ray or mediastinal infiltration and peribronchial involvement. Some of these unquestionably have an associated tuberculosis, but most of them did not warrant such a diagnosis. Many such children in the past were sent to the country and exposed to fresh air and sunlight have shown a remarkable improvement, yet when allowed to come home under unhygienic surroundings after a couple of months would have a return of their symptoms. (It is understood that allergic causes have been carefully eliminated). Lately we have been sending these cases to be exposed three times a week to the action of ultra violet rays in increasing doses. The results have been much better than we anticipated, many cases reporting progress and in some cases immediate cessation of the symptoms after the second or third administration, while others improve not so rapidly. The children who became worse or who were not improved by this method, nearly always had a mediastinal tuberculosis.

It is a fairly common idea that some children "out-grow" asthma. This is possible in a certain number

of cases. It has seemed to us that the younger the child the greater the number of positive anaphylactic reactions we obtained, so that it would seem as if to a certain extent, nature desensitized our cases. If this is the case, we would expect a cure and unquestionably this occurs occasionally. This depends on the secondary infection and the subsequent structural changes. For this reason we advise all cases of asthma whether mild or severe to be treated as early as possible as the chances of ultimate recovery is only proportional to the duration of the disease.

CHART III

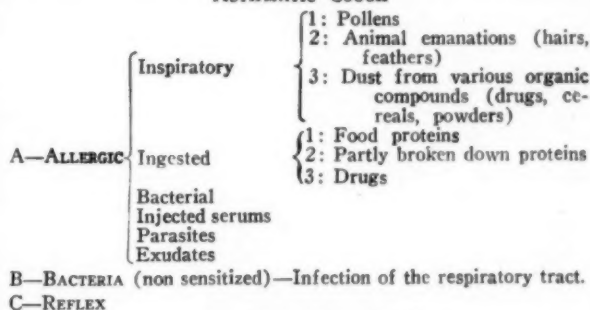
A PRELIMINARY REPORT OF 100 CASES FROM THE CHILDREN'S ASTHMA CLINIC AT THE POST GRADUATE HOSPITAL

Cases only slightly benefited or not improved.....	7
Cases very much improved or entirely cured.....	93
The latter could be divided into the following groups:	
Those in which it was only necessary to remove the allergic cause or desensitize.....	27
Those in which it was also necessary to give:	
A. Abacterial vaccine.....	23
or B. Beef peptone injections.....	23
Cases which had further to be treated by alpine ray before their symptoms were entirely cleared up.....	19
Case benefited by removal of allergic causes and the administration of beef peptone by mouth.....	1

NOTE: No such figures would be obtained however if any one of these methods alone was tried out. A bacterial vaccine, for instance, which in its place might be very useful would fail utterly if the child came in contact with rabbit hair to which it was sensitized. It is also interesting to see how treatment with autogenous vaccine and peptone compare. It is however my impression that a tabulation of all our cases in our clinics would show that in a larger series autogenous vaccines on the whole would be more satisfactory.

DIAGRAM I

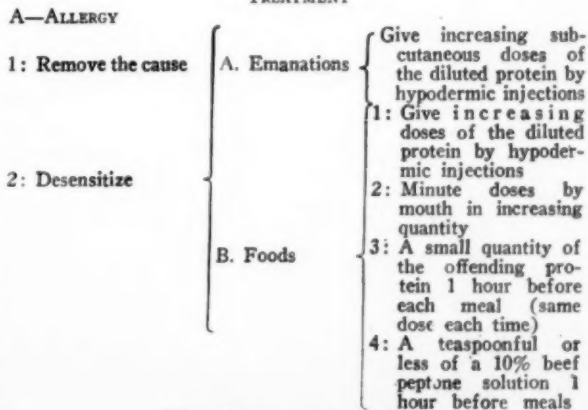
ETIOLOGY OF BRONCHIAL ASTHMA, ASTHMATIC BRONCHITIS AND ASTHMATIC COUGH



(irritation of vagus) { 1: Nose, throat, tonsils
2: Congestion due to venous stasis
3: Inflammation of the peribronchial tissue and enlargement of the mediastinal glands (may be tubercular or not)

DIAGRAM II

TREATMENT



(Concluded on page 45)

The X-Ray Examination of the Chest

KENNON DUNHAM, M.D., JOHN H. SKAVLEM, M.D.,

Cincinnati, O.

The roentgenological examination of the chest should be based upon a study of the fluoroscopic image and stereoscopic plates. The stereoscopic method has the advantages of definitely localizing the lesions with regard to the three dimensions of the thorax, of allowing a detailed study of the character and distribution of the abnormal densities and of furnishing a permanent record. An x-ray plate is a record of differing densities. Its value depends solely upon the clinician's ability to determine densities which have increased or decreased as compared with normal densities, and to deduce which lesions have caused such changes.

In the fluoroscopic examination of the lungs three fields are to be examined: that to the right and that to the left of the heart shadow, both of which are to be observed in the antero-posterior and postero-anterior positions. The third field is that between the spine and heart, frequently called the median strip. It contains the trachea, oesophagus and large vessels. It is best examined with the rays passing from the left back to the right front, but any oblique angle may be used.

Normally the bright fields on either side of the heart should be of approximately the same density throughout except at the lung root, where the hilum shadow is heavy and from which the short trunks extend into the various lobes. More of the trunks extending to the lower lobes can be seen on the right than on the left, because the main stem bronchus on the left side lies to some extent behind the heart. Frequently in healthy individuals dark shadows due to calcification are seen within or near the hilum, sometimes in the lung fields.

The extent of the excursion of the diaphragm should always be noted. On forced breathing it should be greater on the left side than on the right. Anything under 5 c. m. on either side should be considered abnormal. The excursion is greatest in tall slender people and less in short heavy individuals. Irregularities of the dome of the diaphragm should be noted and if possible explained.

With the picture of the normal lung fields in mind it is easy to detect on the screen abnormal increased densities which may be caused by pleural effusions, abscess, diaphragmatic hernia, tumor masses, pneumonia, thoracic malformations and if sufficiently advanced, tuberculosis infiltration. On the other hand abnormal decreased densities are produced by emphysema, pneumothorax and cavity. Emphysema differs from the normal lung in that the lightness of the field does not change with inspiration and expiration. Also with this condition the diaphragmatic excursion is limited although the chest is seen to heave.

The usual line above a pleural effusion is concave, but the fluid may be so encapsulated that it is seen in abnormal positions, even to being held perpendicularly along the chest wall. In this case the line of hydro-pneumothorax when the patient is in the upright position is always horizontal. The bright area of decreased density above the fluid may be somewhat obscured if the lung is collapsed to-

ward the anterior or the posterior wall, rather than toward the spine. Then the value of observing the patient from various angles is apparent. The line of a pleural effusion associated with lung tumor is usually convex. In this condition the line of hydro-pneumothorax moves freely upon change of position; that above pleural exudate does not move, while that of pleural effusion associated with lung tumor and transudates moves slowly.

In the study of pulmonary tuberculosis the fluoroscopic method of examination has distinct limitations. In advanced cases the infiltration encroaches so much upon the air spaces of the lung that abnormal densities are detected, but slight and acute lesions may be missed entirely. In such cases study by means of stereoscopic plates is absolutely necessary. If the areas above the clavicles do not light up after cough a lesion giving increased density should be diagnosed and tuberculosis suspected. Likewise pleuro-pericardial and diaphragmatic adhesions should cause the examiner to suspect tuberculosis. The diagnosis of pulmonary tuberculosis in an adult should never be made from large hilum shadows or heavy trunk shadows alone.

The examination of the third area, or the median strip should be conducted with great care. On inspiration there should appear a bright triangle between the heart, the spine and the diaphragm. When this does not appear the reason for the obliteration of this space must be sought. In the upper part of this median field the bright area lies between the spine and the aorta and is most liable to be encroached upon by enlargements of the latter. Between this upper bright area and the lower portion behind the heart the field is narrowed and there is great normal variation in its size in different individuals, that it is unnecessary to pay close attention to it unless the bright area is entirely obliterated. It will be noted that fluoroscopy is most valuable when observing motion.

The study of stereoscopic x-ray chest plates is the most important procedure in the diagnosis, treatment and prognosis of pulmonary tuberculosis. The reading of x-ray chest plates can only be intelligently undertaken by those familiar with all phases of pulmonary tuberculosis. The examiner must be thoroughly familiar with the normal x-ray chest plate and then be able to detect and interpret the abnormal densities produced by the pathological changes of the disease. The abnormal densities seen should be translated into terms of actual pathology whenever this is possible and so described in the x-ray report. Thus when the x-ray examiner states his diagnosis in terms of actual pathology and the clinician does likewise they are speaking in common terms which give the most value to their consultation and only in such case can the pathologist at the post mortem table correct their errors and direct their development.

Stereoscopic x-ray chest plates for lung study should show the trachea, its bifurcation, the arch of the aorta passing under the left bronchus and the trunk markings from apex to base. The technique

necessary to obtain such a record is embodied under three heads: the quality of the rays, the time of exposure and the relation of the patient to the tube and plate. The shortest possible exposure, giving good detail is the best. The patient should not be allowed to breath between exposures. Five seconds is the maximum time allowed from the beginning of the first to the ending of the second exposure. This is necessary because long exposures or breathing between exposures produce a fuzzing of the linear markings which simulate early tuberculosis. To secure the necessary speed a comparatively hard ray is required, $7\frac{1}{2}$ to 9 in. spark gap, with 40 M. A. is advised. With this setting the ordinary 150 pound man can be taken with $\frac{3}{4}$ to 1 second exposure.

A sitting or standing position is best. In the lying position the heart shadow is enlarged, the diaphragm is raised and hydrothorax is then often overlooked. The plate should be in front of the patient. The chin is raised or turned to the left with the right cheek on the plate. This allows the neck shadows to cover the plate just to the left of the spine within the circle of the first rib. The lung here is further removed from the trachea and less vital tissue is obscured. The plate should be sufficiently high to secure a picture of the trachea from a level just below the larynx. Arms should be loosely dropped in front of the hips with elbows turned sharply out against the plate holder. This throws the scapula off from the thorax. The patient should be held firmly to the plate.

In our laboratories we are using one meter target plate distance. This not only gives us a good full exposure of the lung fields but is also a good working distance for the computation of the heart size from the silhouette area on the x-ray plate, when that is to be undertaken. The tube is moved through a plane parallel to the spine. The principal ray of the first exposure should pass through the spine at the fifth dorsal vertebra a little below the spine of the scapula; the second exposure should pass through the spine at a level 10 c.m. below this.

The reading of chest plates consists of objective description and subjective deduction. The following routine is useful.

1. Plates—quality or the work of the roentgenographer.
2. Bones—the position of the spine, the corresponding width of the interspaces and the angles of the ribs to the spine. Calcification of the ribs. Bone lesions.
3. Muscles—note height and shape of dome of the diaphragm, position of the heart and aorta, pectoral muscles if seen and breasts if patient is a female.
4. Trachea—note the level of the bifurcation, the position of the trachea, and the left bronchus passing under the arch of the aorta.
5. Hilum—note size and density, compare the two sides and recognize the presence and extent of calcification.
6. Lung fields—study the distribution of all trunks, localize the lobes, describe and localize all abnormal densities.

The arrangement of the chief divisions of the bronchi within the lungs is very definite. A classification for x-ray studies is as follows. On the right side a single large branch given off above the pulmonary artery runs into the upper lobe. Because of its position above the artery it is called the eparterial

bronchus. The divisions as seen on an x-ray plate consist of a vertebral trunk which runs directly up to the apex parallel to the vertebral column, first interspace trunk, which finally divides under the first interspace and second interspace trunk, the small divisions of which lie under the second interspace. All of these branches have anterior and posterior divisions. The branch to the middle lobe is given off some distance below the branch to the upper lobe and below the pulmonary artery. As viewed on stereoscopic x-ray chest plates it is seen to run anteriorly. After this branch is given off the bronchus continues on down as the main stem bronchus to the lower lobe. From this main stem numerous branches are given off in anterior and posterior divisions, which extend down toward the base. The first branch of this main stem branch to the lower lobe is of special importance. It is large and courses posteriorly into the upper third of the lower lobe. On the right side this trunk arises from the main stem bronchus posterior to the mouth of the bronchus to the middle lobe. This large branch pointing to the ninth interspace posteriorly accounts for the louder breath sounds and prolonged expiration as heard in the region of the angle of the scapula. This bronchus can be readily seen as a trunk on most stereoscopic x-ray plates. On the single plate it is usually obscured by the hilum.

A density on this trunk will show that a lesion is present in the apex of the lower lobe. In pulmonary tuberculosis it is very important to determine whether or not there is involvement of this apex. It is usually the first site for a lesion in secondary extension from the upper lobes and often the seat of the first pulmonary lesion. On the left side we have the same arrangement of vertebral, first and second interspace branches in the upper lobe. But in addition there is a long branch which curves around the left border of the heart down into the lingual tip. It is given off the main bronchus much higher than on the right side. This trunk is usually prominent in heart conditions, especially in mitral stenosis. The bronchus to the lower left lobe follows out exactly the same arrangement as on the right side.

The great value of a thorough knowledge of the divisions of the bronchi is its adaptation to the study of x-ray chest plates. They can be definitely made out in good stereoscopic x-ray plates and in seeing them it must be remembered that each such shadow or trunk has an absolute anatomical entity. By this study or trunks on an x-ray plate the lesions of pulmonary tuberculosis, an abscess, foreign body or any abnormal condition in the lung can be accurately localized unless the trunks are obliterated by massive increased density. By such a study of trunks, (each of which contain a bronchus) the progress of the pathological changes in pulmonary tuberculosis can be followed accurately from one area to another. In this way an insight into the pathogenesis of pulmonary tuberculosis is gained, which is second only to post mortem studies.

A normal chest plate shows the ribs bounding the lungs on all sides except below, where we see the diaphragm. The picture is divided into right and left fields by the spinal column and mediastinal structures. The heart and aorta are prominent. The trachea passes down the median line and gradually crosses to the right side of the spinal density. The bifurcation occurs usually in front of the fourth

(Concluded on page 45)

Systolic Murmur

LOUIS FAUGERES BISHOP, A.M., M.D., Sc.D., F.A.C.P.
CONSULTANT IN HEART AND BLOOD VESSEL DISEASES, LINCOLN HOSPITAL,
New York.

A very radical change has taken place in medical opinion as to the importance of the systolic murmur. A few years ago hardly anyone doubted that a person with a very definite murmur had heart disease and was incapacitated for heavy labor. People who had such murmurs and who were able to perform such labor were considered as freaks, and were sometimes exhibited at medical societies.

A murmur alone is no longer considered as of great importance; it is of importance when it is associated with enlargement of the heart. The murmur referred to is a soft, blowing systolic murmur. The purring systolic thrill is a different matter. The latter indicates that there is a deformity of the valve or some anomaly. A mere leaking valve with a perfectly healthy heart muscle puts a burden on the heart that is small compared to the heart reserve force.

Disorder of the heart muscle is what really needs to be considered. Unfortunately, rheumatism or other infection that can damage valves usually also involves the muscles. But damage to a valve that occurred many years ago, when the heart muscle has completely recovered, can be lightly regarded. It has dawned upon the profession that it is not valvular lesions that destroy, but usually additional damage from recurring sepsis. What we fear in the progress of heart disease in these days is not the wearing out of the heart from the burden of damager valves so much as additional infection or loss of nutrition of the heart.

For these reasons the care of the heart of an individual in all his relations to life becomes an important factor. We were taught that valvular disease caused heart failure by the additional load and internal stress that it brings to the heart muscle. This is the belief still held by some who have not revised their cardiology in the light of the newer practice. The logical result of this belief leads to the adoption of rest as the principal recommendation for heart disease. The fact that valvular disease has occurred is an almost positive proof that the myocardium has taken part in an infection.

It makes a vast difference in our judgement in handling these problems if we believe we are dealing with damaged valves and overworked muscles, or if we are treating infected muscles and damaged valves that are only of secondary importance. In the first instance, rest is the logical advice. In the latter instance we have to do with those things which remove infection and overcome mal-nutrition of the heart muscle.

There is no greater enemy to infection and mal-nutrition of the muscles than exercise. In a man who exercises and breathes deeply the important function of oxidation is increased throughout the body and all those forces which combat the lower grades of infection are stimulated.

There is a much closer analogy between the proper treatment of cardiac disease and tuberculosis than is always borne in mind.

What, then, will be asked about the mitral presystolic and the aortic diastolic murmurs standing from a narrowing of the mitral orifice and a leakage of the aortic

valve. Here again the same principle can be applied, but with the knowledge that the probability of the involvement of the heart muscle in the process is much greater. Stenosis is the end result of a long process. The same is true of the usual causes of an aortic valve leakage.

The terms organic and functional disease of the heart are bad terms to deal with, because in the public mind they stand almost for guilt or innocence in a criminal court. Still they are good terms and they are hard to get away from.

The word organic heart disease should be limited in young people to those showing a very definite purring systolic thrill at the base or apex, or the murmur of mitral stenosis or aortic regurgitation. We can also speak of organic heart disease when there is cardiac enlargement, permanent abnormal rhythm, venous engorgement in the neck, true angina pectoris, constant high blood pressure, or chronic renal disease. The latter refer to people under forty. In the group over forty, with or without abnormal heart sounds we cannot pronounce absence of heart disease if there is breathlessness or fatigue on very mild exertion.

Before closing we will return for a moment to the soft systolic murmur. It is well to call attention to the personal equation in observers of the sound produced by the blood passing through the heart. It is perfectly conceivable that a murmur can be the result of blood passing from one part of the heart to another. We have only to look inside of the heart to realize this. That this important movement of a fluid inside of a rather rough cavity should be usually silent seems almost inconceivable. Strict attention will indeed reveal the systolic fluid sound in a large proportion of people.

Just what point of loudness should be called a systolic murmur must vary with every individual physician. Many times I have been perfectly certain of such a sound when my associates could not hear it at all. The systolic sound called a systolic murmur might be defined as that usually heard by the average examiner.

The key to success in cardiology is constantly occurring experience, constant revision of frozen ideas and the study of the experiences and conclusions of other cardiologists. The field is so great that no one man can cover it all. Each should make himself responsible for the interpretation of that particular group of experiences which pertain to his practice, and his alone. Cardiology is not yet differentiated as a specialty, so there is no common forum to which these problems can be brought.

The truth is often dangerous because it may be misapplied and the great fact of the beneficent effect of exercise, as opposed to the opposite evil of enforced invalidism, should not, in the hands of any intelligent man lead to the premature destruction of those obviously in the terminal stages of chronic infection involving the heart. In the presence of severe infection, rest is as important a factor as it is in advanced tuberculosis. It is when the infection is mild that exercise does the most good.

109 East 61st Street.

Lunacy Laws and Their Enforcement*

HON. FRANKLIN TAYLOR,

COUNTY JUDGE OF THE COUNTY OF KINGS.

Brooklyn.

Few men of the bar know much about the lunacy statutes. When it comes to advocating reform, it should initiate from a body such as this, which makes a study of such questions and is in a position to obtain legislative interest.

A popular conception of state hospitals for the insane is that they are places of noise and fury. Those who visit them, however, are surprised to observe the docile nature of the patients not under close restraint. Diseases of the brain, like diseases of the body, are relative.

It is but natural that many lawyers are more or less familiar with insane symptoms. In will contests and other cases where the question of mental competency comes up, they prepare themselves by reading standard text books. They find that lunacy is capable of more or less accurate classification. They find text which is scientifically based, and text which is artificial and dogmatic. A study of the latter gives advantage to the shrewd cross-examiner. This opens a natural loophole through which those who face commitment may escape by fooling court or jury. Escaping through that loophole can hardly be stemmed.

The chief fault with commitments under New York statutes is the lax way in which they are made. The committing judge rarely sees the patient. Purely as a part of a day's routine there are placed on his desk possibly ten to twenty lunacy commitment applications. He reads through the batch and disposes of most of them in a few minutes. Each application is accompanied by a brief epitome called "mental report." If that report says that the patient has hallucinations the judge may regard that as sufficient and may sign the commitment without further question. If hallucinations are not alleged, or if it looks to him as though there may be a doubt about the case, he may require production of the patient in open court. When the patient is produced the judge studies the case at first hand, and then renders decision.

Some alienists are at a loss to understand why the power of commitment is placed upon lay judges instead of upon physicians who understand the subject. The reason is that where human liberty is involved decision should rest with constitutionally elected officials and not with private citizens. Unfortunately the judge who considers the application is too far removed from the atmosphere of the case. The law should require him to go to the observation ward and make all commitments there. There would then be closer relations between judge and physician. They would come to understand one another. In time the judge would become a pretty good alienist.

I suggest, also, that all lunacy cases should pass through the observation ward. There is now one law for the rich and another for the poor. The latter have to pass through the ward. The former are able, by the employment of private alienists, to escape it. This gives rise to a serious danger, for the reason that although some private alienists are well known and enjoy the confidence of the judges, others are unknown and may be lacking in character or learning.

The condition just mentioned brings to mind the advisability of mending the law governing the appointment of examiners in lunacy. At present there is no requirement as to either character or learning. The way is open for the unscrupulous. Men are appointed who have never seen a case of lunacy, and wouldn't recognize one if they stumbled across it. It is possible to obtain appointment without having read a lunacy text book or received even elementary instruction. Certainly we should make these appointments solely on a basis of qualification rather than of court favor. We may go even further and consider the advisability of requiring a fixed period of service in a public or private mental hospital, as one of the qualifications for appointment.

It seems to me to be, too, an easy matter for the harmless insane to be put away by relatives who are unwilling to accept the responsibility of care. The New York State hospitals have now an aggregate of about 40,000 insane patients. Does this mean that more people become insane nowadays, or does it mean that we are now committing people of the class once regarded as queer but harmless?

Many of us can remember when every neighborhood had its queer people. Nobody thought of locking them up. Insane people are entitled to their liberty as long as they are neither dangerous nor likely to suffer for want of care. Their affection for families and friends, and love of home, may be as strongly developed as with the sane. Oftentimes they are educated and unusually intelligent. They may suffer in a normal degree the sense of outrage and depression which comes with deprivation of liberty. Their hearts may break from loss of home or children.

Let me mention a specific instance, which I shall call the case of Eva Cromwell. Eva's trouble dated back several years, when night and day for two months she nursed and watched by the bedside of a sick child. When the child recovered she was worn out, physically and mentally. Poverty and the responsibility of family care prevented the rest which would have restored her to normal condition. For years, without so much as a holiday, she struggled along, caring for a large family on a minimum of funds. She was gentle, refined, educated and intellectual. Eventually came a day when she looked at her children and wondered if they were really her own. Presently she realized the absurdity of the thought; but later it came again. She accused her husband of substituting other children. The delusion spread. She thought that her husband also had been substituted by another man. Again she realized that this was nonsense and tried to banish the idea, but still at intervals, it returned. Her husband called in an alienist, who upon examining her advised commitment.

She demanded a hearing in court. There she admitted her delusions but pleaded for her liberty, for the sake of her husband and children. She declared that she would be broken hearted if taken away from her children. The intensity of her devotion was shown when she said, "If I am put away, don't let my children come to see me. They must never know that their mother is in a madhouse." This sad case and many others, sug-

* Presented before the Society of Medical Jurisprudence, October 8, 1923, at the New York Academy of Medicine.

gest the desirability of requiring that in each case there be a report by the Department of Charities concerning the home conditions and situation as to relatives. Where the metal report shows necessity for confinement the additional report will of course make no difference; but where the patient is harmless it may mean the difference between a happy life with liberty, and a broken heart behind barred windows.

The right to jury trial on the question of lunacy is capable of argument both ways. Under the New York statutes the patient has a right to jury trial upon demand made within thirty days following commitment. Thereafter the right to jury trial is gone, but the patient may at any time have his competency determined by a judge, in habeas corpus proceedings. Jury trial is a wise safeguard where human liberty is involved, but on the other hand it is of doubtful efficacy where the question to be determined involves expert knowledge. I fail to see how in obscure cases such as paranoia of paranoid type, where the patient cunningly defeats every effort to unmask his insane delusions, a jury can be expected to render a sensible verdict. Lay jurors have little if any confidence in the testimony of experts.

Occasional injustice is done through our system of committing all mental cases as lunatics. Statistics show that a substantial percentage of commitments represents functional cases such as psycho-neurotics and alcoholics. With treatment these usually clear up. Those who pass through this temporary cloud should not be forever branded with the word "lunatic." Men and women of brilliance and ability may be the victims of this unfortunate circumstance. It would seem that in all fairness these cases should be committed under a less onerous designation, and treated in institutions appropriately named, such as "Hospital for Nervous and Mental Cases."

Too many commitment papers are carelessly drawn. Occasionally the applications are wholly lacking in merit. I recall a patient being sent to the observation ward from the general ward of the county hospital where he had been receiving intraspinal salvarsan injections. An application was made for his commitment as a paretic. An examination in open court disclosed normal enunciation, pronunciation, and mental alertness. Apparently he was not wanted in the general ward on account of his disgusting physical condition, and the State hospital seemed an easy way to get rid of him on the basis of a paretic "curve."

Another case was that of a colored man who was under treatment in the general hospital following a stroke. One night, while his condition was still acute, he was twice found wandering in the hallway, a condition for which his physical condition might easily account. The case was devoid of all symptoms which could be regarded as definitely indicative of insanity.

From time to time we hear of brutal treatment of insane patients by attendants. This condition is due to the low class of attendants who respond to the disgracefully low wages paid by our public institutions. The employment of humane and intelligent attendants is a matter of first consideration in the handling of the unfortunates whom the law deprived of their liberty simply because of mental disease. The position of insane hospital attendant is one of great importance. It should be placed on a professional, rather than a mere employment basis. The compensation should be at least as attractive as that paid to professional nurses in less onerous fields of endeavor.

Our State hospitals are shockingly over-crowded. With total accommodations for only thirty-two thousand insane patients, more than forty thousand are jammed within their walls. The condition is both unsafe and inhuman. For years the lunacy commission has been trying to get legislative relief, but without avail. At the coming election we will be called to vote on the question of a fifty million dollar bond flotation to provide additional facilities. Every man or woman having so much as a spark of human kindness should vote "yes" on that measure.

The insane hospital in Flatbush is largely a firetrap. Should there be a bad fire thousands of patients housed there will have to be turned loose and escape as best they can. There will be panic and loss of life. If the people of Brooklyn will but stop and think what this means they will do surely their part to help avert the peril.

The observation ward at the Kings County Hospital is inadequate. A well known alienist who had charge of it nearly two years told me that he found it a constant nightmare. At times densely overcrowded, patients in all stages of mental disease sit within full view of one another. There are no facilities for segregation. The condition of the patients is aggravated by what they see going on around them. A sane person on the mental borderline may be made insane by his experience while confined there under observation. What is intended to be a humane institution is rendered tragic by the indifference of public officials who turn deaf ears when asked for necessary funds.

What I have just mentioned brings us back to the question of compelling all patients to go through the observation ward. Private alienists have a right to object to their patients being subjected to this process as long as objectionable features apply in observation wards. Patients should receive as a high degree of consideration and accommodation as applies in hospitals for the physically ill. Private rooms should be available for those able to pay. With adequate and efficient accommodations available, no private alienist should shrink from a direction that his patient be taken to the ward for supplemental observation before passing on the application for commitment.

I have suggested quite a few things to-night, because experience teaches us that the best way to rectify errors is to look for them wherever they can be seen and by constant agitation to obtain the necessary support to accomplish efficient reform.

Discussion

John Kirkland Clark, Esq.: While listening to Judge Taylor, I could not help thinking of a remarkable case we had in New York within the last fifteen years. The case is the only one where twelve alienists from all over the country regarded the man as insane and the question of his sanity was passed on by a jury. The man was one of the most brilliant men I have ever met. He was accused of committing grand larceny. After twelve alienists had testified that he should be committed and he had been committed on the certificate of two physicians, he was indicted and went to court and, having been adjudged sane, subsequently served a prison term. He was afterward discharged and studied law and has earned his living ever since.

Although he was proved guilty he always claimed he was innocent as well as sane. If the doctors were right I always felt my life might pay the forfeit. The last time I saw the gentleman he was associated with a lawyer and appeared in the court room in a case in which he did the investigation work, ably conducting the examination of the witnesses,—a convicted felon in this State, adjudged insane, never admitted to the bar, and conducting a brilliant cross-examination.

One wonders whether there could have been a mistake; if so, if there is a possibility there may have been others. The various safeguards, particularly with regard to the 30-day period

for observation, under favorable conditions, is an important factor.

Dr. Edward E. Hicks: I want to remind Judge Taylor there are three new buildings at the Brooklyn State Hospital, fire-proof, first put up as recently as the time of office of Governor Whitman. I agree with Judge Taylor that the judges should go to the observation ward rather than compel the supposedly insane person to go to court. This would accomplish several desirable ends, not the least of which is the opportunity of bringing about a better understanding between the physicians in charge of those wards and the judges who have the final power of committing their patients.

As to the suggestion that all people suspected of being insane going to an observation ward I cannot agree unless it is possible to have a building where people able to pay could be housed and could see their relatives there, and the physicians in charge of the case be permitted to go there and examine the patient and sign the commitment papers. It would hardly be proper to compel every patient to go to a city institution, the city physicians do the work and the city of New York receive the fees. I doubt if such a law would be constitutional. Too much care, however, cannot be exercised in looking after mentally sick people. One of the difficulties today is the law by which physicians may so easily become examiners in lunacy.

Do not forget that 11,500 insane in the State hospitals are aliens. If we had proper immigration laws we would not face this condition.

Dr. Carroll L. Nichols: In a discussion such as this a very important factor is the establishing of a point of contact between the medical man (the question of diagnosis) and the law (the question of incompetency). This is especially true of the so-called borderline cases. After the alienist has made the diagnosis of the mental condition, the judge must decide the matter of deprivation of the individual's liberty,—whether the patient is insane and dangerous, or merely slightly incompetent in which case custodial care may or may not be requisite.

As an example of the latter, I have a patient, a girl of twenty-eight, suffering with epilepsy, petit mal type. She and her family are well to do. Commitment papers were drawn up and presented to the judge for his signature, but he asserted he could not commit her. I explained the case in further detail to him. She had had slight attacks over a period of eighteen years, during which time she had taken ninety grains of bromide a day. She had become, whether due to the disease or to the constant large doses of bromide, mentally deteriorated. I desired to send her to Bloomingdale for observation and the determination of her real mental condition. She was not dangerously insane, so I suggested to the Judge that he ask her certain questions of current interest. It was disclosed that she knew neither the name of the President of the United States nor of the Mayor of New York City. The Judge finally signed.

In the case of Eva Cromwell, cited by Judge Taylor, there is a matter which is very suggestive indeed,—her questioning whether her eyesight might not have been so affected as to cause her to be unable to recognize her own children. That she could believe it possible her eyes could be so affected was indicative of her insanity. No sane person could seriously consider such a thing.

There are certain types of insanity which require very delicate measures, and the physician in charge of committed cases should have the right to demand that no one visits the patient except upon presentation of a written order from the judge.

Judge Taylor's suggestion that all cases suspected of insanity be sent to the observation ward of a hospital might be compared to a similar demand that a patient with acute appendicitis, whose private physician has diagnosed the condition and suggested immediate operation, be compelled to go to a dispensary where the surgical staff should decide whether or not such operation was necessary.

Dr. Walter H. Conley: In relation to the point raised in regard to insane people being sent to a state hospital when they could be sent to some other institution where they could pay for their care; at present the relatives are asked what they can afford to pay and an investigation is made to corroborate their statements at the time they are brought in for observation. After they are committed to a state hospital for the insane, if the relatives can pay for them they are charged in proportion to what they can afford. In regard to the statement that some of these patients might recover if left at home instead of being sent to an observation ward, it was for this reason that the period of observation was lengthened from ten days to thirty days. In relation to the criticism of the psychopathic building of the Kings County Hospital, it was built twelve years ago, but it is not large enough for segregation and classification. The Commissioner of the Department of Public Welfare has advocated an appropriation for new buildings, large enough for segregation and classification of all the insane in the city as well as mental defectives and we are hopeful that the new

psychopathic building in Manhattan will be large enough for all in the City of New York.

As to the case of hemiplegia cited from the Kings County Hospital, at present I am General Superintendent of the Department of Public Welfare and I would like to know if there are any more such cases. I do not know why the man should not have had the benefit of a better diagnosis.

Dr. D. E. Hoag: It has always been my opinion that it was injudicious to place a patient in a sanitarium or State Hospital, if they could be managed in any other way. It becomes forever a blot upon the individual and upon the family name, almost as much so as a prison sentence.

I hoped Judge Taylor would refer to what might be regarded as the rights, duties and privileges, of the mental specialist in the management of his cases; how far he should go in recommending commitment. There are many cases of mild disorder which may be easily handled and taken care of at home with the aid of an intelligent nurse. It is quite natural for any family to resent the suggestion of commitment. There are, however, many situations that arise in the care of an insane person in the home that should be gravely considered and which may influence in favor of commitment. I refer to those cases where property rights may be involved, cases in which the alleged insane person is harassed unnecessarily, by importunate relatives, to sign leases, contracts, checks, and other documents.

Reference has been made here this evening to a more or less famous and celebrated case, occurring a few years ago, where an individual facing the bar of justice was adjudged insane by a number of alienists but found sane by a jury of laymen. It so happens that I had a personal acquaintance with this individual for many years prior to him becoming notoriously conspicuous. I have also observed him on many occasions since. It is my opinion that he had been well schooled to feign insanity, and that of the most difficult form to simulate. The ruse was performed so successfully that some very competent alienists were temporarily misled thereby.

Dr. Clarence P. Oberndorf: There were two proposals raised by Judge Taylor which, it may interest this Society to know, have been operative in Germany for many years. One is the point that it would be a great advantage if all persons considered insane were subjected to the same process of examination. This is an almost universal procedure in Germany. There are Class 1, 2 and 3 patients in all the State hospitals, the wealthiest being in Class 1, etc. Nearly every insane patient in the country, from highest to the lowest, goes to state institutions and passes through the same general medical procedure except that in the higher classes the patient pays for a private room and better food. The system has worked very well. There is great need of places of this kind here in America and the State could make a profit on the wealthy patients and devote the surplus to the benefit of the poor. The second point is a separate hospital for patients suffering from mild mental disorders. Three or four such exist abroad and in these the patients are also divided into Classes according to their ability to pay. They remain at these sanatoria, according to their neuroses, for a varying period of time, and the Class 1 patients help to reimburse the state for the state's poorer charges.

Judge Taylor: In closing the discussion I might refer to Dr. Nichols' thought as to whether the percentage of psychoneurotic cases is not high. I was surprised to find the figures for psychoneurosis were several times as high as the figures for paresis; the latter were very low and the former ran into several hundred cases. I fail to see any analogy between cases of appendicitis and mental cases. In the former the patient is not committed.

Syphilis of the Bladder

A. Peterson reports two cases of syphilis of the bladder; the first in a druggist, 45, who denied knowledge of luetic infection. Bladder irritability and frequency of urination for eight months, together with recent development of pain over the abdomen caused cystoscopic examination. This revealed an edematous area, the size of a dollar, near the right meatus, with a calcareous deposit. Ureteral catheter on right side could not be passed.

After cystoscopic examination urination was impossible owing to clots in the bladder and suprapubic cystostomy was necessary. Laboratory examination revealed a 4 plus W. R. He was given small doses of neosalvarsan and mercurial rubs, but did not tolerate antisyphilitic treatment well. He died three months later from pulmonary tuberculosis.

The second case was in a woman of 29, complaining of pain of two months duration over lower right abdomen. The catheter could not be passed into the right ureter. Blood examination was 4 plus. She was given 2 salvarsans and 25 intravenous injections of mercury and when last seen was feeling well.—(*Calif. State Jour. of Med.*, Oct., 1923.)

The General Practitioner and Diabetes

(Concluded from page 28)

By thus increasing the diet and subsequently following this with an additional insulin dosage there is little danger of producing too low a blood sugar or what is called an *hypoglycemic reaction*. This may be avoided by carefully balancing the diet and understanding and warning the patient of the premonitory symptoms of a beginning hypoglycemic reaction. These symptoms are, sudden and pronounced hunger, weakness or fatigue, restlessness, pallor, dilated pupils and increased pulse. These symptoms may be made to disappear quickly and further danger avoided if the patient will immediately eat a little candy, lump of sugar, piece of bread, glass of milk or a little corn syrup. This is the one danger in the insulin treatment but may be avoided if care is taken.

Insulin may be used to advantage in the treatment of acidosis and coma. Most physicians speak of a diabetic being in coma when he is stuporous, breathing heavily and exhaling acetone. The degree of acidosis depends on the extent to which the products of incomplete combustion of fats (acetone, oxybutyric and diacetic acid) have accumulated in the body and varies from simple ketosis (indicated by presence of acetone bodies in the urine) to more marked acidosis and finally diabetic coma. The dose of insulin here required varies with the severity of the acidosis, but large doses are necessary in the advanced stages and its early administration is important.

The Joslin method of rapid desugarization is best carried out in a hospital and not by a private physician, as it depends on careful and repeated sugar tests, which the average physician has not the time to do, and a careful feeding of the patient by means of caloric tables.

The writer has only treated three patients with insulin, the patients using their own hypodermic injections. Thus far, only one had a reaction, and that was caused by not following the injection by a meal.

There is no doubt but what the insulin treatment has come to stay. In advanced cases of diabetes it gives splendid results, but in milder ones good results will be obtained by using the tablet of trypso-gen or of cellasin. Every case of diabetes presents an individual proposition for care and study. Insulin has already been used to control acidosis following protracted anesthesia and a new and broader field of experimental therapy and investigation is opened up by this one fact alone.

The question of the treatment of diabetes is becoming intensely important from the standpoint of new developments in medicine. The Toronto people have insisted that because insulin is destroyed by trypsin it cannot be given by mouth, and they have also contended that because insulin is the thing which stimulates sugar burning and is destroyed in the stomach that oral pancreas therapy is of no value in diabetes.

Now we have some English investigators who tell us that these statements are not founded on fact and that insulin is ACTIVE if given by mouth, provided you know how to give it.

These same investigators tell us that parathyroid given in conjunction with insulin makes the latter more active, or at least it increases the reaction to it and makes necessary only, a remarkably reduced dosage.

A short article in the *British Medical Journal* (Nov. 17, 1923, p. 916) embodies the case reports

and laboratory figures from Forrest, of Newcastle-on-Tyne. He gives five cases treated with insulin alone and then again with insulin and parathyroid combined, but as the results are practically the same I will quote but one.

Case 3. Twenty units insulin given alone. Blood sugar: 0.362 per cent, 0.214, 0.156, 0.172, 0.224.

Twenty units insulin given with 1 grain parathyroid. Blood sugar: 0.339, 0.246, 0.182, 0.125, 0.107, 0.091, 0.088, and 0.122 per cent.

This most definite action on the blood sugar curve by combined insulin and parathyroid given orally ought to be welcomed not only by the general practitioner, but it seems to vindicate what Harrower of California has long maintained.

The injection method of using insulin is a nuisance not only to the physician, but to the patient as well. It is hoped that other combinations of insulin will be tried out by the mouth and all of the therapeutic possibilities ascertained. It appears that if the insulin can be protected by combining it with some other gland product or chemical substance that its use by the mouth will become possible.

36 Princeton St.

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Mercurial Inunctions at Fifth Avenue Hospital

Dr. Louis Rene Kaufman is utilizing an unique method for inunctions at Fifth Avenue Hospital, New York. The patient is given 1½ ounces of U. S. P. mercurial ointment in a paper spoon. These directions are handed him in typewritten form:

Rub an even teaspoonful of this ointment thoroughly but gently into a definite part of the body every night as indicated:

Sunday, the right leg.

Monday, the left leg.

Tuesday, the right arm.

Wednesday, the left arm.

Thursday, the right side of abdomen and back.

Friday, the left side of abdomen and back.

Saturday, full tub bath with soap and hot water. Before the rub, wash the part with soap and hot water. Do not rub the ointment into hairy parts. Rub gently but continue the rubbing until the ointment is thoroughly rubbed in (this will take about twenty-five minutes. A suit of very light underwear should be selected and kept to be worn after the treatments, to protect the night clothes.

This is added:

Do not eat acid, fruits or use vinegar while taking the rubs. Should you develop soreness of the teeth, gums or mouth, cramps in the abdomen or diarrhea, stop the rubs and report to the clinic.

To the above advice the following is given the patient:

Eat only plain wholesome foods, avoid spices, tea, coffee, alcoholic drinks and tobacco. Sleep eight hours a day. Every day take one hour of exercise in the fresh air.

The Purification of Insulin and Some of Its Properties

Dudley says potent preparation of equal activity to but only about 6 per cent. by weight of the crude insulin is prepared by precipitating it as the picrate and converting the insoluble picrate into a soluble hydrochloride by means of alcoholic hydrogen chloride. This preparation does not contain phosphorus and does not give Selivanov's reaction for levulose, or the glyoxylic acid reaction for tryptophan and gives only a very faint and atypical Million test. On the other hand, the biuret, the Pauly, and the organic sulphur tests are positive. The hydrochloride is precipitated by acids and alkali hydroxides, the former precipitate being more and the latter less potent than the original, and it is destroyed by trypsin and pepsin. Insulin is relatively stable to acid, but is easily decomposed by alkali hydroxides, and is rapidly absorbed in faintly acid solution. It can, however, be filtered without any significant loss through Berkefeld filters if the solution is made weakly alkaline.—(*Biochem. J.*, 1923, 17, 376.)

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Chastening Thoughts

If there is anything about the careers and characters of certain ancient worthies which impresses us enormously it is the obvious fact that if they were alive to-day, with no more than the professional equipment they possessed in their historical persons, they would be immensely valuable practitioners. Take a man like Richard Bayley, of whose life in an older New York we presented a sketch in the December issue of the MEDICAL TIMES. If he were reincarnated to-morrow he would find a high place in the profession.

This is something to bear in mind in our assays of medical progress, and it is something to think about when analyzing the professional ailments which seem to go hand in hand with our advances in technical resources.

Let there be no mistake about this: a Bayley would have just as much to teach us as we would have to teach him. In an art like medicine much is actually forgotten, and much is resident only in the individual while he lives and moves. Medicine is not exactly an art "once for all delivered to the saints."

It is individual character and genius which always determine the quality and potentiality of practitioners of medicine; without a good endowment of this sort all the technical equipment in the world avails but little. We tend to lose sight of these fundamentals.

The moral is that there were just as good practitioners in the long ago as exist to-day, and there can never be good practitioners unless there are good men. We stress too much to-day technical education, for its own sake, as though there were nothing else, or nothing even greater.

We venture in conclusion this bold thought: perhaps there were better practitioners in the past than in the present.

"There were brave heroes before Agamemnon."

The General Practitioner

Dr. Frank Billings has stated that the family physician should be able, in 85 per cent. of the cases that come to him, to make a diagnosis without calling in a specialist, and Dr. Wilbur, whose term of office as President of the American Medical Association has just expired, has voiced the same sentiment.

It is "up to" the general practitioner to fit himself properly for his job, and the indications are that at present he is conscious of his opportunities and his obligations, and, moreover, is improving himself with gratifying rapidity. Nor is he in the same danger as the specialist of "regarding his patients as 'cases' of a disease, rather than as persons who are sick." In truth, he is not "half-baked," like so many specialists, but really "well done."

In time, we believe, the general practitioner will force recognition as not the least important professional element; perhaps he will become the most important element. The general practitioner is under no necessity of harboring an inferiority complex. The demand that he functionate efficiently is becoming more and more insistent, and he is ready to meet it.

We have heard it freely predicted of late that the practitioner of the future will treat only one disease, just as some men to-day limit their work to tuberculosis, syphilis and diabetes. This is an extreme, "left wing" view, so obviously absurd that its promulgation ought to help the case of the general practitioner. Of course, there will always be specialists of this type, and properly too, but it is the prevalence of certain diseases, rather than the technical difficulties in diagnosis and treatment, which determines a limitation of practice to them.

The Hygiene of Coitus

Quite a number of years ago a paper was read in one of the sections of our great national organization, meeting in annual convention, which dealt very frankly with the hygiene of coitus. For example, as we recall the paper, the introduction of infections through uncleanliness on the part of the male was dealt with. It was a thoroughly sound and scientific performance, but, it is interesting to note, the journal of the organization never printed it.

In this connection, we wish to register our belief that sexual intercourse during the nursing period probably has much to do with the premature occurrence of menstruation and failure of the milk supply. Such intercourse is probably a violation of normal biological requirements, practised merely because of our artificial social arrangements. A really free womanhood would probably change such things radically.

Particularly in our modern life of the moment are we witnessing the ill effects of man's selfishness and brutality in the sexual sphere, because of the added social and economic strains due to the transitional order of things.

Another phase of this subject is the question as to what extent sexual intercourse plays a part in the interruption of early pregnancy.

It seems to us that the time is ripe for further studies in this field. Perhaps the aforesaid section and journal could survive their reading and publication to-day.

Heresy?

The theory prevails that if the medical profession could only in some way inform the public about its wonderful achievements all the people would give up the jazz cults and flock back to the educated physicians.

Thus during the recent annual conference of State Secretaries (of the State medical associations in affiliation with the A. M. A.) Dr. C. B. Drake read a paper entitled "How can the Medical Profession in its Organized Capacity best Inform the Public Concerning the Benefits that Scientific Medicine makes Available?" And Dr. Edward H. Ochsner, President of the Illinois State Medical Society, told us in a most interesting paper in the November issue of the *Illinois Medical Journal* that to save the laity from the cults we should prepare leaflets setting forth some of the fundamental fallacies of the 25 cults or more that are treating the sick, and a few of the accomplishments of the regular medical profession.

This theory seems rather naive to the writer and he doubts the correctness of Dr. Ochsner's estimate that only about 10 per cent of our citizens never tire of being "fooled," if we must call it that, and that 40 per cent are not quite happy until they are "stung" once.

Dr. Ochsner himself admits that "the allied professions of medicine, dentistry and pharmacy are to-day giving the American people the best all-around medical service that any nation has ever had in the history of the world." Now what better advertisement could there be? How could the people be so blind to it as they are represented to be?

The writer's belief is that in our hospitals alone we have the most intensive and extensive kind of demonstration going on all the time of the amazing efficiency of the medical profession. He does not believe that the people are in much darkness regarding the highly advanced state of present-day medical science and the great skill of our practitioners.

If we had the knowledge and the skill of angels, and the fact were known of all men, the writer does not believe that the present situation would be much altered.

It is a question of psychology, analogous to the situation in the world of religious thought, where numberless men concede the divinity of Christ without a reservation and yet do not ally themselves with the organized church or even remotely suggest Christianity in any practical aspect of their lives. But this is not to say that they are ignorant or unfriendly.

We have the good will of millions of people, including some highly informed intellectuals, who prefer, for what we consider peculiar psychological reasons, to seek treatment when ill at the hands of the jazz cults. These cults are not any more agencies of avaricious exploitation than they are a response to the law of demand and supply. If we could wipe them out overnight we would not wholly thwart the desires of the public.

Thorough-going acceptance of the ministrations of the medical profession and total repudiation of the cults would imply a state of mind that millions of people, however educated, will never attain to. It would be a highly desirable consummation, but the world is never so logical as that.

Moreover, the lay world is no more in need of enlightenment regarding medical science than the medical profession is of education in respect to what it is about the freak systems that fascinates the laity; of that the average physician is grossly and culpably ignorant; he is bigoted, prejudiced, and determined to read the worst implications into the situation as it concerns the wilful public and the exponents of the cults. The gnashing

of his teeth, the rattling of his sabre, and the preparation of aggressive leaflets will get him nowhere and will probably do much harm. While he fumes, the cultist perfects himself in applied psychology.

Logorrhea: Our Most Grievous Social Disease

We say that "talk is cheap," or rather we used to say so; to-day, talk is probably our most extravagant luxury, the chief factor in the high cost of living, and the cause of more blood and tear shedding than anything else.

The world to-day is a veritable Tower of Babel. Many tongues are shrieking discordantly. There is a pandemic of loose talk. If our talking nuisances would only shut up and do a little tolerant thinking there would be a quicker establishment of law and order.

It is tongue disarmament that is needed even more than military disarmament.

It all comes about from suppression in childhood. Our loudest adult talkers are folk who were suppressed in childhood. Regaining the use of their adult tongues they betray the fact that their early suppression did not result in learning how to think. Their talk is the talk proper to childhood, when unsuppressed.

Under a normal social evolution our talkers would have talked themselves out in childhood and then have learned to think and talk less in later life.

Is it not childish talk—most of what we have to listen to now?

Logorrhea is our most grievous social disease at the present time.

What better argument could there be for an unsuppressed childhood?

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

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Pterygium removed. Quinine: A valuable note. Rat Poison. Red Nose. Syphilis. Name embosser. Seminal emissions remedy. Spleen enlarged, remarkable remedy. Scarlet Fever: New early sign. Typhoid. Tonsillitis. T. B. hints. Trachoma. Tires. Another \$100 note. Collect baby's urine anytime. To keep cool sultry nights, prevent glass stoppers sticking, cork treatment makes answer for glass, and over 400 others. Alphabetically arranged for quick reference. Price, \$1.00 postpaid. Guaranteed to please or price returned. Originally collected for my own use, now offered to others. A veritable gold mine of facts—a scrap book of knowledge.

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Very truly yours,

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The Desirability (?) of Longevity

We lately saw the advertisement of a life-extension institute, headed, "Do You Want to Add Ten Years to Your Life?" Here once more the obvious assumption was that longevity is in itself a good and desirable thing. But is it? There is of course in all of us the primary instinct of self-preservation which speaks out strongly in favor of living as long as we can; and it is to this instinct, this irrational and almost bloodthirsty clinging to life, that the advertisement was intended to appeal. As such it seemed to us, we admit, a little ignoble; we were reminded, as all such enterprises which are now so much in vogue remind us, of Julius Cæsar's remark that life is not worth having at the expense of an ignoble solitude about it. But instinct apart, the worth of such enterprises is measured, surely, by the quality of the life which we are invited to prolong. The content of the average life being what it is, and its prospects of spiritual enlargement and enrichment being what they are, may longevity be so indubitably regarded as an absolute good that one is justified in an almost ferocious effort to attain it?

—The Freeman.

Our Therapeutic Attitude Toward Pneumonia

(Concluded from page 32)

Even the widely advertised serum for Type I has proved a disappointment. It has been extensively experimented with for six years, but the results obtained have not been sufficiently convincing to bring about its general acceptance by the medical profession. The best that its advocates claim for it is that it somewhat reduces the mortality if given at the beginning of the disease, while it is worthless or even injurious if given late. The reduction in mortality claimed does not seem more than could be expected generally in cases brought early under treatment. And it may well be, as Thompson has suggested, that the intrinsic mortality of Type I cases is not as high as it is generally stated to be.

Pending discovery of suitable serums we should make the best of physiological support; and we should be careful to distinguish between physiological support and meddlesome interference; for into the latter it is easy to be betrayed by therapeutic zeal, eagerness to be doing something for the patient, susceptibility to dogmatic influences, or an imperfect physiological diagnosis.

If I have learned anything in the many years that I have been studying pneumonia it is that it pays to be conservative in its treatment, and that the occasions which justify overstepping the bounds of conservatism are fewer than they seem. We should be very sure of our ground when we take it on ourselves to interfere in the delicate situation created by the intense fight which nature puts up against the pneumococci
1218 Pacific Street.

The Asthma Problem in Children

(Concluded from page 35)

- 3: Modify the protein In the case of milk, for instance, occasionally modified forms of milk can be given such as dried milks, buttermilks, etc.
 - 4: Subcutaneous Peptone Dose increased until a slight local reaction occurs
 - 5: Non-specific protein therapy or auto-serum
- B—BACTERIA
- 1: Remove focus of infection, build up the resistance by general hygiene
 - 2: Autogenous vaccine
 - 3: Non-specific protein therapy (milk or peptone injections)

C—REFLEX

- 1: Correct any nose or throat abnormality
 - 2: Try and reduce the peribronchial inflammation and the enlarged mediastinal glands.
- This is accomplished by general hygiene, iodides and the exposure of the chest to ultra violet rays, sunlight or X-ray.

DIAGRAM III. ASTHMA CLINIC

Dr.

PEDIATRIC DEPARTMENT—NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL

No. _____	Date _____	Age _____
Name _____		
Address _____		
Family history—(Father, mother, or near relative)		
Asthma, Skin disease, gastro-intestinal diseases		
FACTORS INFLUENCING ASTHMA		
Location _____	What does patient sleep on?	
Time of the year _____	(type of bedding)	
Weather _____	Does he sleep alone?	
Time of day _____	Occupation of:	
Catching cold _____	Father	
Food _____	Mother	
Proximity of animal or bird _____	Other members of household	

Type of asthma _____
(cough, bronchitis, etc.)
Did it follow 1—An infection
2—Change in diet
3—Serum or other injection

Frequency

When was the first manifestation noticed?
Was there ever any skin or gastro-intestinal trouble?

X-Ray Examination of Chest

(Concluded from page 37)

dorsal vertebra in the adult. The left bronchus after passing under the arch of the aorta reaches the hilum about in front of the seventh rib and the right bronchus enters the right hilum about in front of the sixth interspace. The trachea and bronchi are noted as areas of lesser density bordered by lines of greater density. The hilum is an irregular area of greater density and frequently contains brilliant spots indicating calcification. The trunks pass from the hilum density into the lung fields. Thus we have the hilum, heavy trunks and linear markings, all of which are of greater density than is the parenchyma of the lung.

The Physician's Library

Arterial Sclerosis. By Louis Faugeres Bishop, M.D., of Fordham University. 383 pages. London: Henry Frowde and Hodder & Stoughton, 1 Bedford St., Strand, W. C., 2.

A book on this subject is of very real interest for the reason that the hustling life led by so many Americans today has made arterio-sclerosis a somewhat common condition, far more so than a few years ago. The author goes into the subject with thoroughness, laying down causes, symptoms and effects. Not only does he give the method of treatment but says what must be avoided, how life can be prolonged and how the condition can be prevented.

Dr. Bishop has made a real contribution to the literature on this subject, and it is written in such a bright, chatty style with many illustrations that it is bound to be not only very easy but very profitable reading.

The Practice of Medicine. By A. A. Stevens, M. D., University of Pennsylvania. 11th Edition. 645 pages. Philadelphia and London: W. B. Saunders Co., 1923.

It is always a pleasure to review a new edition of Stevens' book, because he is able to condense more information in smaller space than almost any one among our list of medical authors. The changes which are incident upon practice made it necessary for the author to reset this book and he has taken the opportunity of leaving out much that may be now extraneous and has put in everything new. The volume will continue, as it has for more than 25 years, to be one of the most useful as well as complete manuals utilizable by physicians.

Alcohol and Prohibition. By Victor G. Vecki, M. D., of San Francisco. 166 pages. Philadelphia and London: J. B. Lippincott Co., 1923.

Old, old friend approaches a delicate subject when he discusses these subjects in their relation to civilization and the art of living. Diplomatically the distinguished author advocates the pursuit of a golden middle course.

The first chapter deals with alcoholic beverages in general, leading up to a discussion of both sides of the alcohol question. Following this, are chapters on prohibition in relation to the Constitution and in relation to personal liberty. Then is shown what prohibition has so far accomplished in the United States, and who has been benefited by it. Beyond this, comes the interesting question as to whether or not prohibition can be enforced, followed by the important consideration of prohibition as it affects the medical profession. The author next points out the possibilities of mitigating and even eliminating certain evils which have arisen through the drastic enforcement of prohibition laws and goes into the relation of alcohol to longevity. In his concluding chapter Dr. Vecki says the keynote of happiness is temperance in all things, and that temperance in prohibition is equally as desirable as temperance in drinking.

Heart Records. By S. Calvin Smith, M. D., of Philadelphia. 313 pages. Philadelphia: F. A. Davis Co., 1923.

Smith presents this book to enable the physician to properly examine the heart and to reach the correct diagnosis. It studies electrocardiography, interprets the records, after telling how to take them; and goes into detail regarding equipment necessary.

The second section is devoted entirely to polygraphy.

There are 126 original illustrations, most of them unusually good and all very illuminating. The book is worth while.

The Normal Child: Its Care and Feeding. By Alan Brown M. B., Associate Professor of Medicine in charge of Pediatrics, University of Toronto. 258 pages. New York: Century Co., 1923.

This is an up-to-date book on the care and feeding of children, especially infants, and notable for the wealth of helpful detail offered. It is addressed to the mother, the nurse and the student of the normal child, for, as Dr. Brown points out, "every mother should recognize that any illness, however brief and slight, is a hindrance to growth, and that every hour spent by the child in pain or disturbance means some loss to him and may mean permanent impairment to some organ or function of the body. It is now known that many serious and chronic illnesses of adult life have their beginnings in some disease of childhood like measles, whooping cough, scarlet fever, diphtheria or the serious disturbance of digestion." The book is of value for the large class to whose service it is dedicated.

Obstetrics for Nurses. By Charles B. Reed, M. D. of Chicago. 399 pages.

Principles of Bacteriology. By Arthur H. Eisenberg, M. D., of Cleveland. 214 pages.

Chemistry for Nurses. By Fredus N. Peters, Ph.D., of Kansas City. 302 pages. St. Louis: C. V. Mosby Co., 1923.

This series, intended for nurses, is a trio which should find a place in every nurses training school. Each volume is replete with all of the subject matter a nurse can utilize. The books would also aid physicians in brushing up on the fundamentals of these subjects.

Rhus Dermatitis. By James B. McNair of the University of Chicago. 298 pages. Chicago: University of Chicago Press, 1923.

The pathology and chemotherapy of ivy and oak poisoning is given, together with a most extensive bibliography. The subject is treated extensively and cannot but prove of interest to those who come in contact with this common condition.

International Clinics. Vol. III., 33rd Series, Philadelphia and London: J. B. Lippincott Co., 1923.

Twenty-eight authors contribute 26 articles to this volume, covering diagnosis, morbid psychology, pediatrics, medicine, surgery and medicolegal.

We regret to observe an article by Bulkley, setting forth his ideas that cancer can be properly treated by internal measures alone. Constitutional treatment may be advantageous, but when one proclaims the failure of surgery, X-ray and radium he makes it possible for many cancerous patients to build up false hopes, only to come into the hands of competent men when it is too late to employ surgery and other necessary measures.

A Clinical Guide to Bedside Examination. By Drs. H. Elias, N. Jagic and A. Luger, of Vienna. Translated by W. H. Brams, M. D., of Chicago. 135 pages. New York: Rebman Co., 1923.

The authors set forth in concise form the points of interest in a physical examination. Inspection, palpation, position and all other methods are brought out to suit the part of the body to be studied. It is a useful compendium.

Diagnostic Methods. By Herbert T. Brooks, M. D. of Los Angeles. 109 pages. St. Louis: C. V. Mosby Co., 1923.

The fourth edition brings this book up to date. Its purpose is to show the physician every necessary diagnostic detail and it serves the purpose well.

Walter Reed and Yellow Fever. By Howard A. Kelly, M. D., of Baltimore. 352 pages. Baltimore: Norman, Remington Co., 1923.

The practical extermination of "yellow Jack," due in large measure to the work of Walter Reed, George H. Sternberg, James Carroll and William C. Gorgas, makes this book of renewed interest. The story of Reed is too well known to be recited here, but it is well to have a volume, written in so charming a manner, to preserve for all time the chronological story of the fight waged against the dread disease.

Reed, a hero of battlefields almost as real as those of France, performed for mankind a service of immeasurable greatness. It is fitting that his biographer should be the kindly gynecologist, whose skill has brought health and happiness to thousands of women.

Delayed Arsenical Poisoning

G. S. Strathy, C. H. V. Smith and B. Hannah, collected 58 cases in which one or both of the above conditions occurred. Out of the 58 cases, 47 exhibited jaundice or atrophy of the liver, 8 of these being fatal. Dermatitis occurred in 2 cases. Albuminuria was present in more than half of the cases. The onset of symptoms was seldom earlier than five weeks after cessation of arsenical treatment. A noteworthy point is the occurrence of atrophy of the liver and dermatitis in a case of psoriasis treated with Fowler's solution, in doses of 5 minims. It is also stated that these complications occurred both in syphilitic and non-syphilitic cases. For these reasons the authors conclude that these cases of severe icterus and dermatitis are due to delayed arsenical poisoning. Their occurrence in the case treated only with Fowler's solution points to the arsenic rather than the benzol group in the salvarsan compounds as the responsible factor in such cases. They are also of opinion that the simultaneous administration of mercury may act as a predisposing cause by its action on the kidneys delaying the excretion of arsenic.—(*Ven. Dis. Inf.*, Aug. 20, 1923, 314.)

Interpretation of Abdominal Pain

(Concluded from page 33)

pathetic nerves, elicited by pressure two inches to the right and slightly below the umbilicus is our safest guide in determining if the appendix is really at fault.

Like appendicitis, the pain is at first general over the abdomen when there is a rupture of the right tube in an ectopic pregnancy. The shock here is likely to be greater, but otherwise the symptoms are very similar to the acute appendix. A history of a previous pelvic inflammation, with a period of sterility, and one or two missed menstrual epochs will help. However, this occurring in a patient known to have had appendicitis within a year and to be carrying a chronic appendix, as the only ectopic the writer has ever seen was doing, complicates the history proposition quite a little.

Another condition which needs careful study is an ovarian cyst with a twisted pedicle, as the symptomatology may be very similar to the acute appendix. Here the knowledge that the patient had such pathology should be of value.

The left abdomen carries the body and tail of the pancreas, spleen, and is minus the appendix, gall bladder and most of the liver. The conditions found here are very similar to those found on the right side with the above exceptions.

Perforation of the stomach or intestines at any point will produce general pain accompanied by shock, nausea, tenderness with rigidity, and fever. These are Murphy's classical symptoms of appendicitis when occurring in this sequence and they caused an error in diagnosis in the only case of perforating gastric ulcer the writer has ever seen.

Here the history is valuable, if it can be obtained. For instance, if the patient is known to be suffering from gastric or duodenal ulcer and the above symptoms should be present, one would at least suspect the condition. In typhoid the diagnosis would be equally obvious. A strangulated hernia either through a natural opening or through a rent in the mesentery will produce pain and vomiting and usually complete obstruction of the bowels. In one case stool and flatus passed thirty-six hours after the accident.

This is by no means a complete list of the complications within the abdomen causing pain. Thrombosis of the mesenteric vessels, the ingestion of some drugs, lead colic, indigestible foods, ice water, labor, either premature or at term, etc., will cause distressing symptoms and pain.

Perhaps the most important point in the interpretation of abdominal pain is the history. This taken with a careful examination will enable us to determine the condition present, sometimes.

The Wassermann Reaction in Tuberculosis

Boss and With have investigated the Wassermann reaction in tuberculosis. The cases studied comprised 1,174 of cutaneous tuberculosis, 738 of surgical tuberculosis, and 376 of pulmonary tuberculosis. In only three instances was a positive reaction obtained, two of lupus and one of verrucose tuberculosis. These observers conclude that a positive Wassermann reaction is never obtained in tuberculosis, and that the three positives must have been cases of latent syphilis.—(*Med. Sci.*, Sept., 1923.)

Exosmosis in Relation to Injury and Permeability

"The time curve expressing the increase in the permeability of Nitella during the process of death is practically the same whether derived from measurements of exosmosis or of electric resistance," says Osterhout, W. J. V.—(*J. Gen. Phys.*, 5, 709-25, 1923.)

Diagnosis and Treatment

A Clinical Method for the Estimation of Protein in Urine and Other Body Fluids

Shevsky and Stafford recommend this technic, into a 15 cc. graduated centrifuge tube pipet 8 cc. of urine, add 5 cc. Tsuchiya's reagent (1.5 g. phosphotungstic acid and 5 cc. conc. HCl dild. to 100 cc. with 95 per cent EtOH) without mixing, stopper invert slowly and exactly 1 min. later centrifuge for 15 min. at 1800 r.p.m. at 18-22°. Under these conditions, each 0.1 cc. pptd. protein is equivalent to 0.036 g. per 100 cc. If the volume exceeds 1 cc. the determination should be repeated with diluted urine. Comparisons with determinations by heat coagulation and Kjeldahl show an average error of 8.4 per cent and a standard deviation of ± 9.7 per cent.—(*Arch. Inter. Med.*, 32, 222, 1923.)

A New Chemical Method for the Detection of Bilirubin

Sabatini advises that one add 1-155 cc. of serum to 0.3-0.4 cc. of a mixture of 30 cc. 3 per cent HCl + 0.5 cc. 0.5% NaNO₂. In the presence of bilirubin a bright green color appears immediately, becoming dark green, then blue green and eventually losing color, though still visible after 24 hrs. The Cl ion appears to be necessary for the reaction. The limit of sensitivity is 1:200,000. Normal serum gives a pale green color after long standing (physiological bilirubinemia).—(*C. A.*, Nov. 10, 1923.)

Peroxidase in the Cerebrospinal Fluid

Sabatini says oxidative enzymes are found in the fluid in all diseases in which there is an increase of cellular elements, and are derived from the leucocytes. The fact that positive oxidase and peroxidase reactions were observed in serous meningitis suggests that the enzymes may also be derived from the ependyma cells.—(*Pediatrics*, 30, 863, 1922.)

Malignant Melanoma

Sutton-Mallia report that melanotic tumors are uncommon in the colored races. Only one case of malignant melanoma in the negro is found in the American literature.

A complete study of a fatal case of malignant melanoma of the leg (left) in an aged negress, with necropsy findings, is presented. Of chief clinical interest was the syndrome which led to the diagnosis of gangrene of the leg and to amputation supposedly for this condition. This consisted of marked generalized arteriosclerosis; falling off of the small toe, diffuse blackening of the skin of the entire leg and edematous swelling. The tumor arose in the region of the small toe and invaded diffusely the subcutaneous tissues, blood and lymph channels, the leg as far as the inguinal ligament being uniformly pitch black. Metastases occurred in the liver, lungs, kidneys, heart, spleen, uterus and retroperitoneal tissues. The anterior tibial artery at the level of the internal malleolus was entirely obliterated by an arteriosclerotic process.

Vascular disease in the region of the small toe undoubtedly caused gangrene of the toe. No pigmented nevus or other growth was found as a starting point. The question is raised as to the possibility of chronic irritation and two fairly definite injuries to the small toe, together with local anemia, being responsible for the genesis of the new growth which may have been derived from the chromatoblasts of the negro's epidermis. Hyperplasia with extension of the suprarenal cortex into the capsule and surrounding fat was also present, and in view of various clinical chemical observations as to the relation of the suprarenal to pigmentation, it is suggested that this cortical response may have been an expression of an attempt at compensation for some factor which, while present in the suprarenal, was inadequate in stemming the tide of melanin formation.—(*Urol. and Cut. Rev.*, Nov., 1923.)

The Wassermann Reaction in Leprosy

Major R. B. Lloyd, Dr. E. Muir, and Mr. G. C. Mitra, of the School of Tropical Medicine, Calcutta, examined the Wassermann reaction in a series of 286 unselected cases of undoubted leprosy, consisting of 228 adults and 58 children. Each blood was tested with three separate antigens, viz.: (1) a cholesterinized alcoholic antigen, (2) Noguchi's antigen, and (3) Bordet's antigen, to which 0.4 per cent. of cholesterol was added.

Among the adult patients a positive reaction was found in 41.7 per cent. of all cases, in 27 per cent. of the anesthetic cases, in 47.4 per cent. of the mixed cases, and in 63 per cent. of the nodular cases. Among the children the figures were much higher, a positive reaction being found in 62 per cent. of all cases, in 47 per cent. of the anesthetic cases, in 80 per cent. of the mixed cases, and in 100 per cent. of the nodular cases.

The possible influence of syphilis in causing the positive reaction was investigated by careful inquiry and examination, which elicited evidence of a previous venereal sore in 49 of the adult cases, but of these 15 gave a negative reaction. If it be assumed that the remaining 34 positive reaction were due to syphilis and not to leprosy, this would indicate a syphilitic rate of 14 per cent., which is about the average syphilis rate of the population. Among the children only four showed lesions suggestive of inherited syphilis, and among these the Wassermann reaction was positive in one case, partially positive in one case, and negative in two cases. On the other hand, a control series of 46 untainted children yielded positive reaction in eight cases, or 17 per cent., which, though not inconsiderable, was within the syphilis rate, and was in striking contrast with the high percentage in the leper children.—(*Lancet*, Sept. 2, 1923.)

Melanosis

The function of pigment in the biological world appears to be similar to its function in the industrial world; it is either decorative or protective. One kind of painter adorns our drawing-rooms with works of art, while another preserves wood and iron work with a protective coat of colored varnish. The delicate shades on the feathers of birds, the ingenious camouflage of certain insects, and the varied colors of the coats of other animals serve as an ornament, inciting admiration, or as a protection, acting as a warning or a disguise, or as a defence against the rays of the sun.

The pigment melanin is of great interest in human pathology because of its presence in the tumors melanoma and melanotic cancer. Spencer, in his Bradshaw Lecture on melanosis declares that there is no essential difference in the melanin which may be obtained by macerating the skin of a negro, or from the ink of a cuttle fish, or from a melanotic tumor. The pigment is formed from a colorless mother substance melanogen, which becomes oxidized to melanin. Melanogen is constantly present in the skin, as is shown by the fact that sections of dead skin slowly darken in color, due to the formation of melanin; the same process may take place in living cells as the result of exposure to the sun or the action of chemical reagents.

Melanogen is the normal precursor of melanin, and the presence of melanogen can be demonstrated in the cells of the epidermis and hair follicles of the fetus and in the embryonic cells of the retinal epithelium before any appearance of pigment. When injected into the circulation a solution of melanin appears to possess properties very similar to those of adrenalin, and Spencer is of the opinion that the pigmentation which occurs in Addison's disease, and also in dogs after the removal of the adrenals, is due to the accumulation of a mother substance common to adrenalin and melanin. The interference with the normal function of the adrenals, whereby they fail to take up this circulating mother substance and convert it into adrenalin, appears to lead to the deposition of large quantities of melanogen in the cells of the epidermis, to form melanin by oxidation.

We are interested only in the protective function of melanin. The secretion of the ink-sac of the cuttlefish is discharged into the water to obscure the movements of the fish by coloring its surroundings. The deep brown pigment sepia may be obtained by dissolving the dried contents of the ink-sacs in dilute ammonia or soda solution, and reprecipitating with hydrochloric acid.

Spencer describes the formation of this pigment in the cytoplasm of the epithelial cells lining the ink-sac of the cuttlefish, and illustrates the production of this melanin pigment. A different example of the protective properties of melanin pigment is provided by the arrangement of the granules in the ova of frogs; at first they are unpigmented, but later granules of melanin appear in the cytoplasm and serve to protect against the harmful effects of sunlight whilst the ova are floating in the water. In the human fetus melanin pigment begins to appear in the fourth month in the epithelial cells forming the outer layer of the optic cup; in the seventh month pigmented cells are found alongside the blood vessels of the choroid which has developed from the mesoblast; the full pigmentation of the posterior layer of the iris is not complete at birth.

The pigment which is produced in the epidermis and the eyeball has a protective function and serves a useful purpose, but of what value are collections of pigmented cells in deeper structures? Probably none at all in the fully developed animal, though they may have been of value at an earlier period. Thus in the embryos of bony fish the pigment cells spread out from around the neural groove and canal in relation to the primitive body segments, and a similar explanation may account for the stripes, patches and markings on the coats of higher animals.

Such considerations have led Mr. Spencer to formulate the following hypothesis: "It seems, therefore, a rational explanation that melanin pigmented cells, whether superficial or deep, have originally for the protection of the central nervous system, been primarily developed around the neural tube. The pig-

mented cells have spread first into the epiderm, then deeper into the mesoblast of the immediate neighborhood, and further have been carried away in the parietal and visceral layers of mesoblast along with outgrowing nerves, especially sympathetic nerves."

The physiological formation of melanin is therefore capable of explanation, but the pathological production of this pigment is shrouded in the mists which obscure the development of all new growths. We know of certain agents which are capable of oxidizing the melanogen normally present, and which accordingly appear to increase melanin pigmentation. The black spots which follow the bites of the body louse, the pigmentation which is produced by excess of arsenic, the development of freckles after exposure to the sun, appear to belong to this category.

In certain disorders of the endocrine glands increased pigmentation may occur, and an explanation has already been offered for the darkening of the skin which occurs in Addison's disease, by assuming that melanogen is deposited in the epidermis instead of being converted by the kidneys into adrenalin. A curious example of the "banking up" of melanin pigment is provided by the tumors so frequently appearing in gray horses, which in old age tend to become white through the loss of pigmented hair. No change takes place in the unpigmented skin, but any area, such as the ano-genital region, of normally pigmented skin is likely to become the site of a melanotic tumor.

The insidious change whereby a congenital melanoma assumes the character of a melanotic cancer remains a mystery, but research has shown that migration of blanched pigmented cells may precede any sign of cancer. Wounds of the skin which have resulted in a small pigmented area may after years of quiescence suddenly assume the character of a malignant melanotic growth.

Variations in the amount of pigment in the eye are very frequent. The name "wall eye" is applied to a condition observed, particularly in the horse, in which there is a large amount of white showing, or where there is an absence of color in the iris or a dense opacity of the cornea. The expression, it may be noted in passing, is derived from the Icelandic word for a beam or sty in the eye. But such variations in pigment rarely lead to melanotic cancer. When such malignant disease does occur in the eye it generally arises from the pigmented layers within the eyeball, and develops as a rule after middle life.

The occurrence of melanotic cancer in other regions of the body—such as the hard palate, the abdomen, the ano-genital region, and the pia mater of the brain and spinal cord—is difficult to account for. It is easy to find a satisfactory explanation for the physiological development of melanin pigmentation; it appears in obedience of definite laws and serves a useful purpose. We are in complete ignorance of the laws which govern the pathological development of this pigment in melanotic cancer. Vague hints and slender clues may be furnished by a study of comparative pathology, and these are worth pursuing. But the uselessness of tumor growths is their most baffling property, for, just as crime is most difficult to detect when there is no apparent motive, so morbid processes are most difficult to understand when they have no obvious object.—(*Editorial, Brit. Med. J.*, Nov. 17, 1923.)

The Stigmata of Late Hereditary Syphilis

B. Barker Beeson states that one of the most complete reports on this subject was made by Sir Herbert Smalley on 941 prisoners at Borstal, aged from 16 to 21, of whom 153, or 16.2 per cent., showed evidence of late hereditary syphilis. Beeson's observations were made on 100 male prisoners at the Chicago House of Correction. As complete a family and personal history as was possible was obtained, and a Wassermann reaction was performed in each case. Special attention was given to the ocular and tendon reflexes; 61 per cent. of the cases were white and the rest were colored; 22 were aged from 17 to 20, 51 from 20 to 30, and the rest were from 30 to 65; 39 (26 white and 13 black) presented stigmata of late hereditary syphilis.

The most characteristic stigmata, such as Hutchinson's teeth, Argyll Robertson pupil, Romberg's sign, and loss of knee-jerks, were rarely found, whereas less pathognomonic stigmata, such as the highly arched palate, and minor dental anomalies, such as vicious "implantation" and marked separation of the teeth, were relatively frequent. The Wassermann reaction was positive in 29 cases. It may be of value in detecting obscure cases, but it may be negative in spite of the presence of important stigmata of late hereditary syphilis. A family history of numerous deaths during infancy was obtainable in 9 cases.—(*Paris Med.*, June 30, 1923.)

Resin Dermatitis

Beinhauer reports a case. The patient was a violinist who had a vesicular eruption of the second finger of the left hand. This was traced to the resin used on the violin bow.—(*J. A. M. A.*, July 14, 1923.)